

# Technology Review

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**March, 1961: A Timely Report on Arms Control, Page 15**



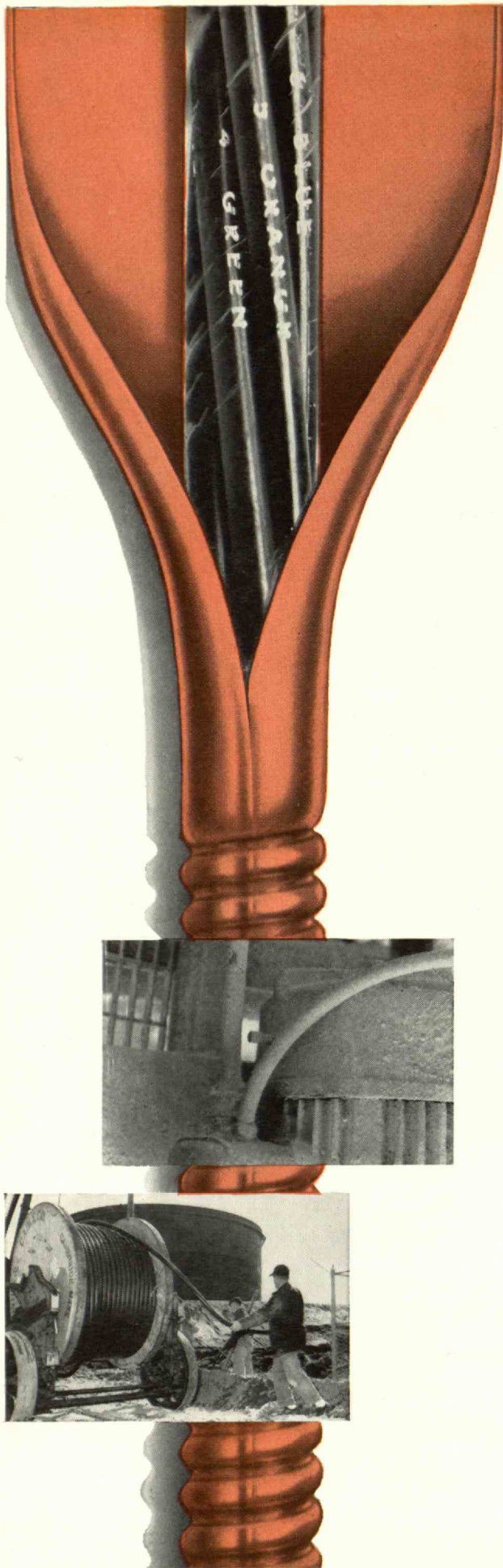
**April at M.I.T., Page 11 . . . Photos of Light, Page 20**

# technology review

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**WHO** provides the communications channels for America's missile defenses?

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**WHO** is girdling the globe with communications for America's first man into space?

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**WHO** tapped the sun for electric power by inventing the Solar Battery?

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**WHO** used the moon for two-way conversations across the country?

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# who?

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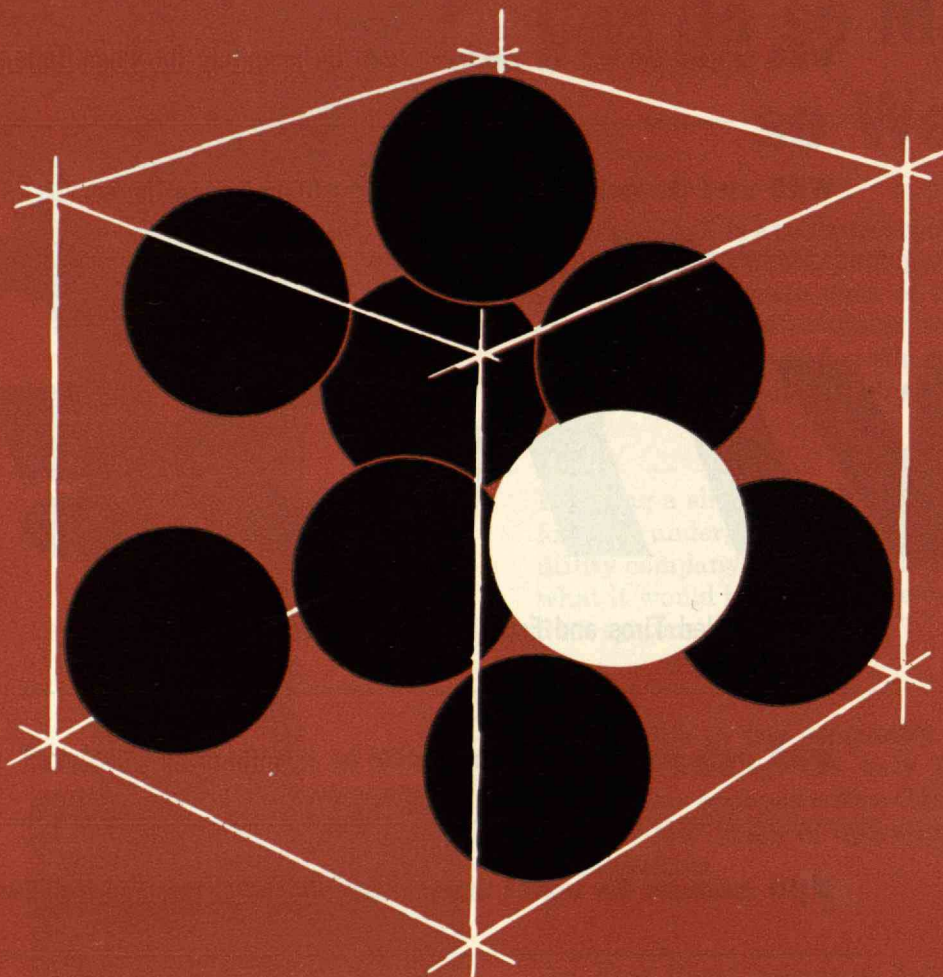
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## Feedback

### The Perils of Writing

IN A widely quoted article that appeared last year in both Cal Tech's *Engineering and Science* and The Technology Review, Richard P. Feynman, '39, announced his "intention" to offer \$1,000 to the first man to make a "rotating electric motor which can be controlled from the outside and, not counting the lead-in wires, is only  $\frac{1}{4}$ th inch cubed." Well, somebody did it.

William McLellan of Pasadena, Calif., built such a motor with the help of a microscope, a watchmaker's lathe, and a toothpick. It weighed 250 micrograms and had 13 parts.

Although Professor Feynman never had really posted a prize, his conscience bothered him so much after he had seen McLellan's motor that he "sent the guy a check for a thousand bucks." Feynman also suggested another prize (see Technology Review, May, 1960, p. 46), but says he can't spare another \$1,000 right now.

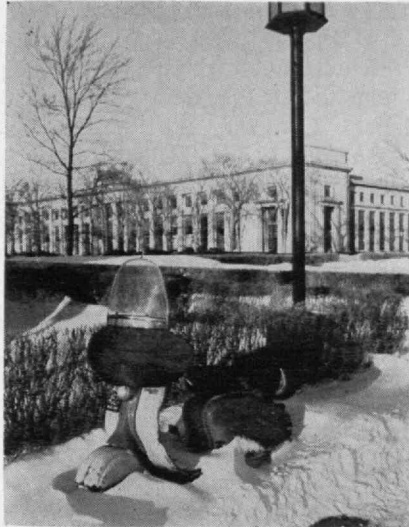
Professor Feynman teaches physics at the California Institute of Technology and will be one of the participants in the M.I.T. Centennial observance next month (see page 12).

### Research Corporation's Role

FROM J. W. BARKER, '16:

The extremely interesting and well-written article "Van de Graaff Electrostatic Generators" by our old friend Jim Rowlands appeared in Technology Review, January, 1961. It has, however, one large omission of fact.

Karl Compton presented to Research Corporation a request for a grant to Van de Graaff (then at Princeton but shortly to move to M.I.T.) for the research precedent to and the construction of his electrostatic generator. This grant was made by the Board of Research Corporation and also a large portion of the "Round Hill Machine" was machined in the Research Corporation plant at Bound Brook, N.J. There is no mention in Jim's article of Research Cor-



*FOR SCOOTER RIDERS at M.I.T. this was the roughest winter since their vehicles became popular. The January cold spell in Boston was the longest in many years.*

poration's early support of Van de Graaff's original work. This is a bit surprising since Jim later mentions the "Godfrey M. Hyams Trust" as making a grant for the Massachusetts General Hospital unit.  
420 Lexington Avenue  
New York 17, N.Y.

EDITOR: Volta Torrey; BUSINESS MANAGER: R. T. Jope, '28; CIRCULATION MANAGER: D. P. Severance, '38; EDITORIAL ASSOCIATES: J. J. Rowlands, Francis E. Wylie, John I. Mattill; EDITORIAL STAFF: Ruth King, Muriel R. Roberts, Pauline Gates; BUSINESS STAFF: Madeline R. McCormick, Marianne G. Hagerty; PUBLISHER: H. E. Lobdell, '17.

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The photo was made by pointing a camera up, at light coming through a tree, by Maurice K. Smith, '54, instructor in the M.I.T. Department of Architecture. Other "light" studies are on pages 20 and 21.

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The Institute's athletes have a gratifying record at mid-season.

# Individuals Noteworthy

## Honors

MEDALISTS and recent recipients of other distinctions recently announced include:

*Victor P. Starr*, '38, the Carl-Gustaf Rossby Award for Extraordinary Scientific Achievement, by the American Meteorological Society . . . *Jerome B. Cohen*, '54, the Robert Lansing Hardy Award, by The Metallurgical Society of the American Institute of Mining, Metallurgical, and Petroleum Engineers . . . Professor *Jerrold R. Zacharias*, the Oersted Medal by the American Association of Physics Teachers.

## New Posts

NAMED in the news recently were the Alumni whose elections, promotions, and appointments are reported below:

*Augustus B. Kinzel*, '21, as a Trustee, American Optical Company . . . *Frederick S. Blackall, Jr.*, '22, as Chairman of the Board, Taft-Peirce Manufacturing Company . . . *Frederick B. Stevens*, '23, as Manager of Mileage Sales, Firestone Tire & Rubber Company . . . *Ralph F. Gow*, '25, as President, Norton Company.

*George S. Mikhlapov*, '26, as a Director, Beryllium Resources, Inc., Beverly Hills, Calif. . . . *Henry D. Johnston*, '27, and *Peter G. Volanakis*, '42, respectively, as President and Administrative Assistant to the President, Strathmore Paper Company . . . *Allen G. Shepherd*, '30, as Senior Metallurgist, Bostitch, Inc. . . . *Robert K. Wilson*, '31, as General Manager, Retailing Operations, Greater Boston area, Sears, Roebuck & Company.

*Harry L. Moore*, '32, as Eastern Regional Manager, Purchasing Department, Mobil Oil Company . . . *Charles P. Bowen, Jr.*, '35, and *James A. Newman*, '37, as Managing Partners, Booz, Allen & Hamilton . . . *Russell W. Bandomer*, '36, as President, A. M. Kinney, Inc., Cincinnati, Ohio . . . *Wilbur F. Jordan*, '36, as Vice-president, Firestone Synthetic Rubber & Latex Company, Akron, Ohio.

*David L. MacAdam*, '36, as a Senior Research Associate, Eastman Kodak Company . . . *Ariel A. Thomas*, '36, and *Charles G. Hammann*, '37, as Senior Associates, Metcalf & Eddy, Boston, Mass. . . . *Horace B. Van Dorn*,



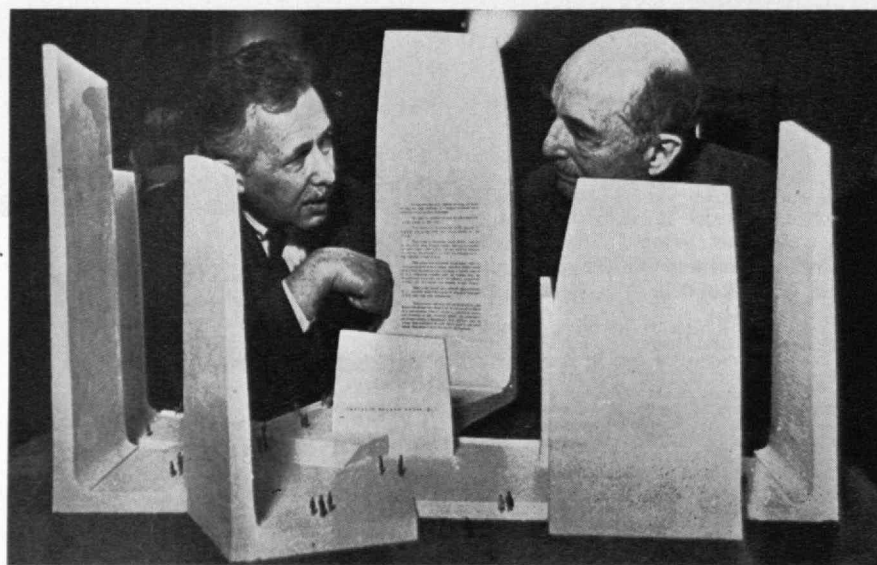
**FEBRUARY 26** was the 100th birthday of **Godfrey L. Cabot**, '81, who posed for this photo at the 1955 Alumni Day Luncheon at M.I.T.

'37, as Vice-president, Fafnir Bearing Company, New Britain, Conn. . . . *Saul P. Jacobson*, '38, President, Bowling Division, Brunswick Corporation.

*Warren H. Powers*, '42, as Manager of Production, Maxwell House Division, General Foods Corporation, Hoboken, N.J. . . . *George F. Floyd*, '43, as Vice-president, Bissett-Berman Corporation, Los Angeles, Calif. . . . *Gilbert B. Devey*, '46, as General Manager, Vec Trol Engineering Inc., Stamford, Conn. . . . *Lloyd H. Perry*, '46, as Vice-president, U.B.S. Chemical Company, Cambridge, Mass. . . . *Gustavo U. Gross*, '50, as Governor of the State of Guayas, Ecuador . . . *William B. Martz*, '50, as Sales and Marketing Manager, Waters Manufacturing, Inc.

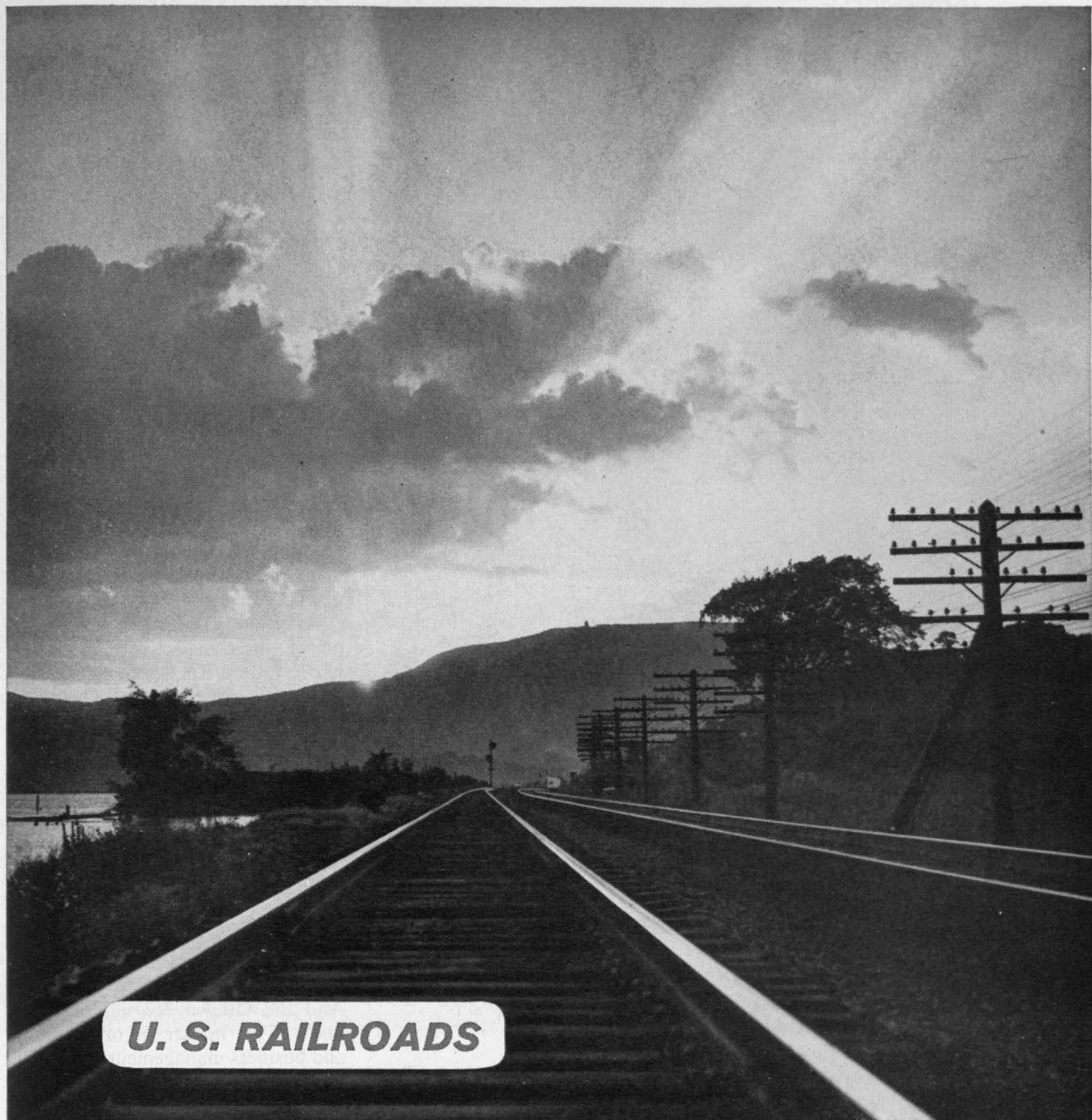
*Robert W. Terry*, '50, as Director of Engineering, Waveguide Systems Division, Microwave Associates, Inc., Burlington, Mass. . . . *William C. Plouffe*, '51, as a Director, Atkins & Merrill, Inc., Sudbury, Mass. . . . *Bruce E. Bidwell*, '52, as Vice-president, Bidwell Hardware Company, Hartford, Conn.

(Continued on page 6)



**DEAN PIETRO BELLUSCHI** of the M.I.T. School of Architecture and Planning headed the panel of judges for a proposed **Franklin D. Roosevelt Memorial** in Washington. He is pictured here (at left) with **Francis Biddle**, chairman of the Memorial Commission, and a model of the design the judges favored.





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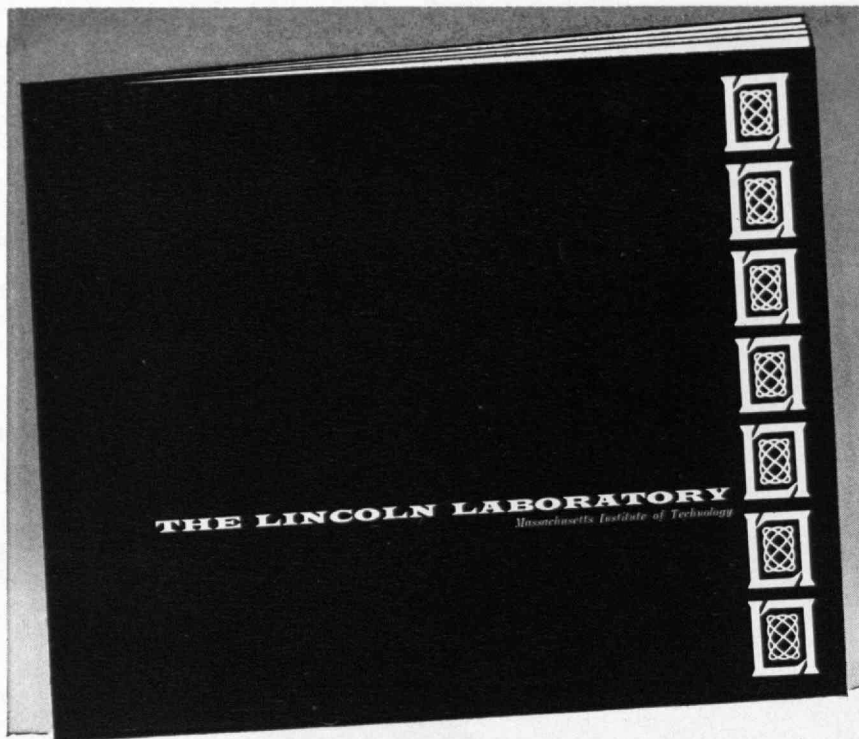
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**Individuals Noteworthy**

(Continued from page 4)

**C. D. Howe: 1886-1960**

A DISTINGUISHED Canadian statesman and member of the M.I.T. Corporation, the Right Honorable Clarence Decatur Howe, '07, died last December 31 in Montreal. He had held many important posts.

As head of his own company of consulting engineers, he played an important role in the economic development of Canada and in 1935 he was elected to the House of Commons as a member of the Liberal Party. At various times he occupied the posts of Minister of Railways and Canals, Minister of Marine, Minister of Transport, Minister of Munitions and Supply, Minister of Reconstruction and Supply, Minister of Defense Production, and Minister of Trade and Commerce.

After the Conservatives came to power in Canada in 1957, Mr. Howe retired from politics and was chosen as chancellor of Dalhousie University, where he formerly had been professor of civil engineering. He held honorary degrees from a dozen universities and was a member of many of the leading engineering societies.

Mr. Howe was reputed to have wielded more power and spent more money than any other Canadian. The *Montreal Star* said he was "a man so big that his enormous impact on Canada is still hard to measure." And the *Ottawa Journal* observed that: "This master of organization and business management had a rich vein of sentiment, revealed by his lifelong pride in being a graduate of the Massachusetts Institute of Technology. He had planned with a classmate, Kenneth G. Chipman of Ottawa, to attend the 55th reunion of his class next year."

Born in Waltham, Mass., on January 15, 1886, Mr. Howe served briefly on the staff of the Department of Civil Engineering at M.I.T. before going to Canada. He became an alumni term member of the M.I.T. Corporation in 1953 and was elected a Life Member in 1958.

Mr. Howe is survived by his wife, the former Alice Martha Worcester of Waltham, two sons, and three daughters.

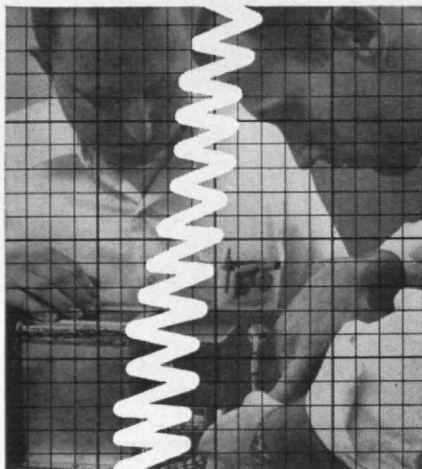
(Continued on page 8)





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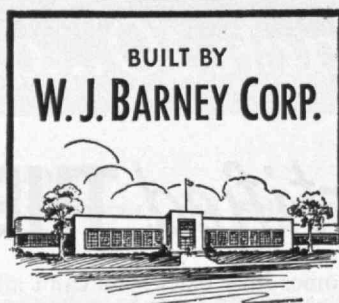
(Continued from page 6)

### Faculty Notes

THE Atomic Energy Commission has appointed *Theos J. Thompson*, Director of the M.I.T. Nuclear Reactor, to an Ad Hoc Advisory Committee on the future use and disposition of the nuclear reactor involved in an accident at Idaho Falls in January . . . Professors *Walt W. Rostow* and *Giorgio de Santillana* will provide part of the text for *The Age of Change*, a pictorial history of the world since the great depression, to be published by Time, Inc. . . . Professor *Arthur C. Cope* is serving this year as President of the American Chemical Society.

President *Julius A. Stratton*, '23, spoke at the 150th anniversary ceremonies of Massachusetts General Hospital . . . Professor *Walter A. Rosenblith* participated in a computer techniques symposium at the February meeting of the Biophysical Society in St. Louis . . . Dean *George R. Harrison* was an editorial adviser for the McGraw-Hill "Encyclopedia of Science and Technology" . . . Professor *Jerrold R. Zacharias* has become a member of the President's Science Advisory Board.

(Continued on page 44)



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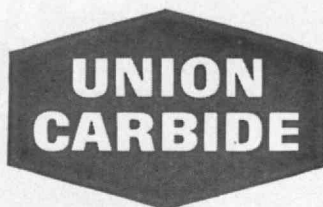
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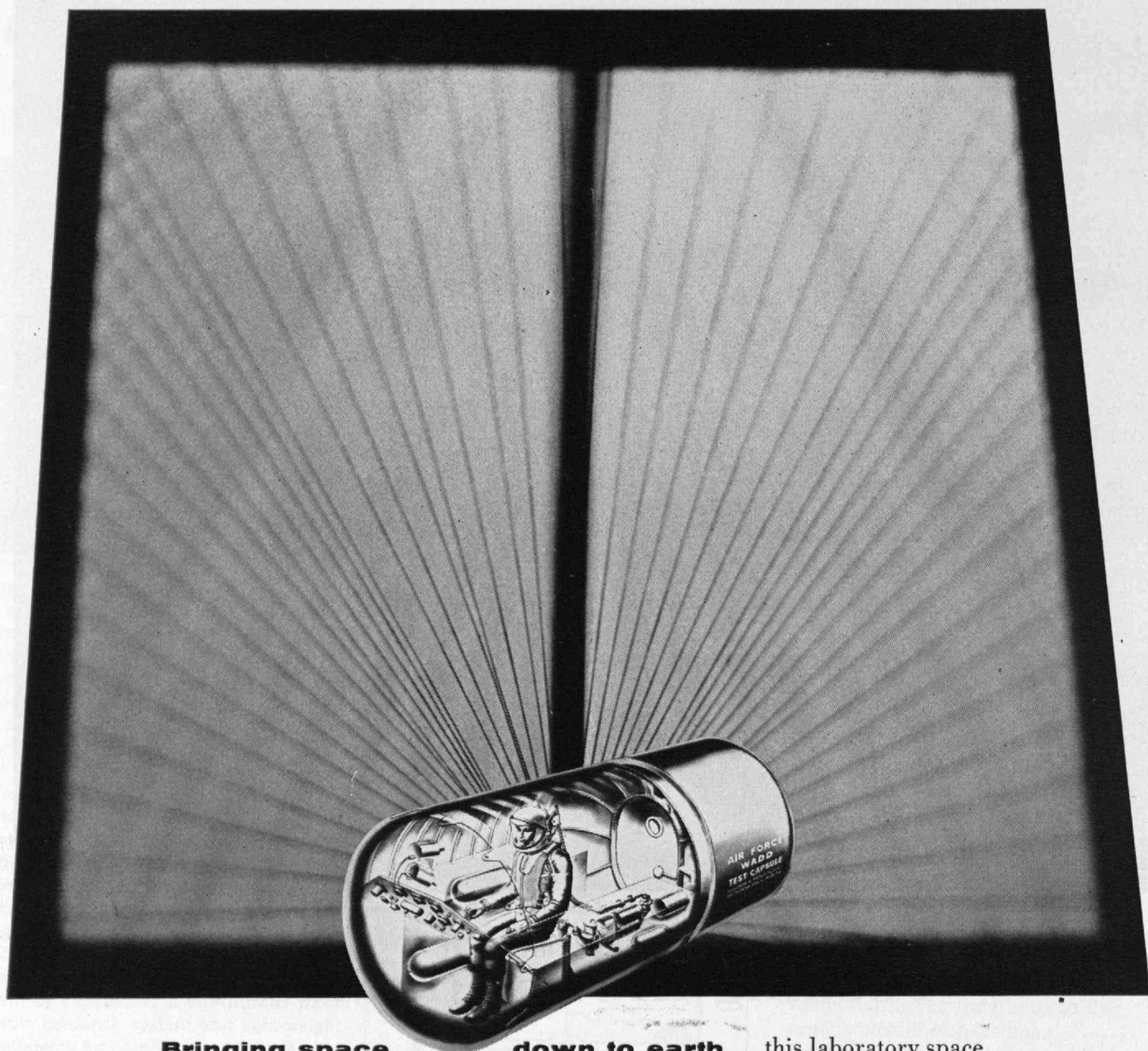
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# M.I.T.'s Centennial Program



## In April On Campus

THE CELEBRATION of the 100th anniversary of the founding of the Massachusetts Institute of Technology will reach its climax on Friday, Saturday, and Sunday, April 7, 8 and 9, when thousands of Alumni and eminent guests will attend a series of general assemblies.

Throughout the first two days visitors will hear members of the Faculty and distinguished visitors discussing great issues of the day. President Julius A. Stratton, '23, will deliver the final Centennial Week address at ceremonies on Sunday, April 9. Greetings from other universities will be brought in a formal academic procession at this time.

Alumni will dine together on campus following the President's reception on Saturday, April 8. Arrangements will be made for members of each class to sit together and some classes will have private rooms. The older groups will be at the Faculty Club, intermediate groups in the Walker Memorial Hall, and the younger groups at Baker House. The Alumni Association has reserved all of the dining places in these halls and in the Graduate House for this major social event of the weekend.

The concluding event, on Sunday evening, April 9, will be a Centennial Concert by the M.I.T. Choral Society in the Kresge Auditorium. Klaus Liepmann will conduct, and the society will sing Haydn's "The Creation."

On the preceding Sunday, April 2, about 100 of the world's most distinguished scholars, educators, and public officials will have met at Endicott House to begin

an International Conference on Scientific and Engineering Education. This conference will continue through Thursday, April 6, and reports on it will be given at the general assembly on Friday, April 7. The reporters and some of the others who will participate in panel discussions on Friday and Saturday, April 7 and 8, are listed and pictured on the next page.

## The Atoms for Peace Award

A PRIZE consisting of \$75,000 and a gold medallion will be presented to Sir John Cockcroft at M.I.T. on April 6 during the celebration of the Institute's Centennial. This 1961 Atoms for Peace Award was announced in January, and will be presented at the Institute because of the great number of eminent scientists from all parts of the world who will be here then.

Sir John and E. T. S. Walton of Cambridge University were the first men to disintegrate atomic nuclei with artificially accelerated subatomic particles, and received the Nobel prize in physics in 1951. Sir John also directed Britain's development of radar and Canada's atomic energy program and later became director of the British Atomic Energy Research Establishment at Harwell. In 1959 he was appointed Master of Churchill College, a new science and technology foundation at Cambridge in England.

The Atoms for Peace Awards are a memorial to Henry and Edsel Ford and are administered by a nonprofit corporation. James R. Killian, Jr., '26, Chairman of the M.I.T. Corporation, is chairman of the trustees who make the award annually.



The M.I.T. Choral Society with Klaus Liepmann conducting will sing Haydn's "The Creation" at the Centennial Concert.



## Centennial Speakers

**Friday, April 7**, four members of the M.I.T. Faculty will report on the international conference which will precede the Centennial assemblies. The reporters will be:

MARTIN DEUTSCH, '37, Professor of Physics.

MAX F. MILLIKAN, Director of the Center for International Studies.

WALTER A. ROSENBLITH, Professor of Communications Biophysics.

WALT W. ROSTOW, Professor of Economic History.

**Saturday, April 8**, there will be panel discussions, chairmanned by Elting E. Morison, Professor of Industrial History at M.I.T.

The three panels in the morning will be on:

❑ How Has Science in the Last Century Changed Man's View of Himself?

❑ The Future of the Arts in the World of Science and,

❑ The Future of Physical Sciences.

The panelists will be:

J. ROBERT OPPENHEIMER, Director and Professor of Physics, Institute for Advanced Study, Princeton.

PAUL J. TILlich, Professor of Theology, Harvard.

JEROME S. BRUNER, Professor of Psychology, Harvard.

ALDOUS HUXLEY, author and Visiting M.I.T. Professor of Humanities.

HOWARD M. JONES, Lowell Professor of the Humanities, Harvard.

LOUIS I. KAHN, noted Philadelphia architect and chief critic of advanced architectural design at Yale.

SIR JOHN COCKCROFT, Atoms for Peace prize winner, Churchill College, Cambridge, England.

CHEN N. YANG, 1957 Nobel prize winner in physics, Princeton Institute for Advanced Study.

RUDOLPH E. PEIERLS, Professor of Mathematical Physics, Birmingham University, England.

RICHARD P. FEYNMAN, '39, Professor of Physics, California Institute of Technology.

The three panels in the afternoon will be on:

❑ Arms Control,

❑ The Life of Man in Industry, and

❑ The Future of Life Sciences.

The panelists will be:

PAUL M. DOTY, JR., Professor of Chemistry, Harvard.

RICHARD S. LEGHORN, '39, President of the Itek Corporation.

WILLIAM O. BAKER, Vice-president for Research, Bell Telephone Laboratories, and member of the President's Science Advisory Committee.

HERMANN J. MULLER, 1946 Nobel laureate in medicine and physiology and Professor of Zoology, Indiana University.

PETER B. MEDAWAR, 1960 Nobel prize winner in medicine and Jodrell Professor of Zoology and Comparative Anatomy, University College, London.

GEORGE W. BEADLE, 1958 Nobel laureate in medicine and physiology and Chancellor, University of Chicago.

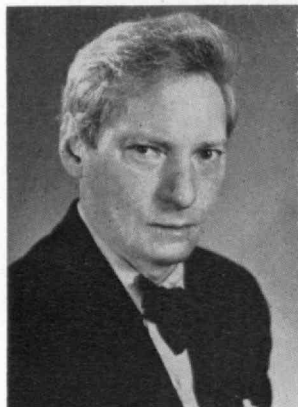
JONAS SALK, physician and scientist, University of Pittsburgh.

HERMAN KAHN, The Rand Corporation.

WILLIAM H. WHYTE, JR., *Fortune* Magazine.



George W. Beadle



Louis I. Kahn



Paul J. Tillich



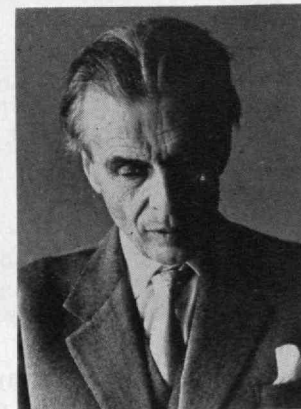
Paul M. Doty, Jr.



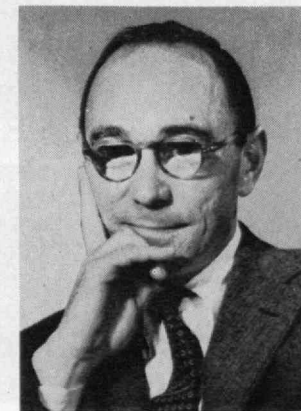
Peter B. Medawar



J. Robert Oppenheimer



Aldous Huxley



Jerome S. Bruner

## The Centennial Conference

THE International Conference on Scientific and Engineering Education, which will precede the general assemblies during M.I.T.'s Centennial Week next month, has been planned by a committee headed by Professor Jerome B. Wiesner, who is now President Kennedy's scientific adviser.

The hundred participants will divide into four groups, each of which will consider a different aspect of the problem: One group will be concerned with the problems of scientific and engineering education in newly developing countries; another with such problems in more advanced countries; a third group with the interactions of science, engineering and society, and the fourth group with the implications of science and engineering for international relations.

Each group will include scholars from various parts of the world, and will discuss a set of background papers prepared and circulated in advance. The discussions of each group will be summarized at one of the general sessions, and reported later in a book to be published by The Technology Press. This book is expected to be an important contribution to the understanding of problems of scientific and engineering education throughout the world.

The main themes of the four sub-conferences have been formulated as follows by the steering committee:

*Some Problems of Scientific and Engineering Education in Newly Developing Countries:* The primary tasks in newly developing states are the building of modern governmental and private institutions; the training of modern men; the creation of adequate transport and power systems; the modernization of agricultural techniques; the development of natural resources. What is the role of the scientist and engineer in the fulfillment of these tasks? To what extent does their fulfillment require the focusing of talents on relatively simple, long familiar tasks of engineering? To what extent can more complex modern technology be exploited to facilitate the creation of these basic foundations for modern society? Should a more systematic and concentrated research effort be mobilized to deal with certain problems like energy supply, water conservation, and communications? To what extent does training abroad divert men from a concern with their own societies' problems? Are there advantages in creating local technological institutions, rather than sending men abroad? How might the traditional engineering education reflect the state of world science, and to what extent the state of the particular society? What kind of efforts should be made to develop a balance between the society's needs for different scientific and engineering talents and the supply from the education system? How can the more advanced technologies contribute to these problems of education?

*Some Problems of Scientific and Engineering Education in Countries with More Advanced Technologies:* The present rapid pace of technological change has led to the claim that many engineers are obsolete on the day of their graduation. Is this true? If so, what can we do to educate men to be effective through their whole life in a rapidly changing technology? Should there be changes in the relative roles played by undergraduate

(Continued on page 32)

## Management and Computers: A Centennial Lecture Series

THE SCHOOL of Industrial Management has arranged for a series of eight lectures to be given at M.I.T. this spring on "Management and Computers of the Future" as part of the celebration of the Institute's Centennial. The first and second lectures will be given on March 9 and 13, respectively, at 8:00 P.M. in the Kresge Little Theater. Two others will follow in March, and there will be four in May. Topics, speakers, and chairmen will be:

**Computers in the Educational Process**, by Prof. Alan J. Perlis, '49, Director of the Computation Center, Carnegie Institute of Technology. Prof. Donald G. Marquis of M.I.T. will preside and Prof. Peter Elias, '44, of M.I.T., and Dr. J. C. R. Licklider of Bolt, Beranek and Newman, Inc. will be discussants.

**Managerial Decision Making as a Feedback System**, by Prof. Jay W. Forrester, '45, of M.I.T. Robert C. Sprague, '23, Chairman of the Sprague Electric Company, will preside and Prof. Ronald A. Howard, '55, of M.I.T. and Prof. Charles C. Holt, '43, of Carnegie Tech will be discussants.

**Computer Simulation of Human Thinking and Problem Solving**, by Prof. Herbert A. Simon of the Carnegie Institute of Technology. Prof. Sidney S. Alexander of M.I.T. will preside and Prof. George A. Miller of Harvard and Prof. Marvin L. Minsky of M.I.T. will be discussants.

**A Library for 2000 A.D.**, by Prof. John G. Kemeny of Dartmouth College. Prof. William N. Locke of M.I.T. will preside and Prof. Robert M. Fano, '41, of M.I.T. and Dr. Gilbert W. King, '33, of IBM will be discussants.

**Scientists and Decision Making**, by Sir Charles Percy Snow of England. Dean Howard W. Johnson of M.I.T. will preside and Prof. Elting E. Morison and Prof. Norbert Wiener of M.I.T. will speak.

**The Changing Structure of Computer Programs for Describing Complex Processes**, by Prof. George W. Brown of the U.C.L.A. Graduate School of Business Administration. Prof. Philip M. Morse of M.I.T. will preside and Prof. Michael P. Barnett of M.I.T. and Dr. Grace M. Hopper of Remington Rand will be discussants.

**Trends in Computer Design**, by Prof. Nicholas C. Metropolis, Director of the Institute of Computer Research, Enrico Fermi Institute for Nuclear Studies, University of Chicago. Dr. Emanuel R. Pierce of IBM will preside and Dr. Gene M. Amdahl of IBM and Prof. John McCarthy of M.I.T. will be discussants.

**What Computers Can Do Better**, by Dr. John R. Pierce of the Bell Telephone Laboratories. Dr. Vannevar Bush, '16, of M.I.T. will preside and Prof. Walter A. Rosenblith of M.I.T. and Prof. Claude E. Shannon, '40, of M.I.T. will speak.

Tickets will not be required, but Alumni wishing reserved seats may request them of the Centennial Lecture Series Committee, School of Industrial Management, Room 52-460, M.I.T.





John R. Kimberly, '26



Robert B. Semple, '32



William B. Bergen, '37

## Alumni Association Officers Nominated

D. REID WEEDON, JR., '41, has been nominated to be the 68th President of the M.I.T. Alumni Association. Other names presented by the National Nominating Committee for the balloting this year follow:

For Vice-president, Carroll L. Wilson, '32.

For Executive Committee membership, Samuel A. Groves, '34, and Edward O. Vetter, '42.

For nomination as Alumni Term Members of the M.I.T. Corporation: John R. Kimberly, '26, Robert B. Semple, '32, and William B. Bergen, '37.

The President elected this spring will serve for one year, the Vice-president and Executive Committeemen

for two years, and Alumni Term Memberships on the Corporation are for five years.

Mr. Weedon is vice-president of Arthur D. Little, Inc., and a director of Arthur D. Little of Canada, Ltd. He has served the Association as Vice-President, Executive Committeeman, Alumni Fund Board member, Alumni Day chairman, and other capacities. He has been a class agent, reunion chairman, and class special gifts chairman. He is currently chairman of the Alumni Association Centennial Committee. Mr. Weedon is president of Phi Beta Epsilon and a member of many clubs and national organizations.

Mr. Wilson, who is now Visiting Professor of Industrial Management, was formerly assistant to Karl T. Compton and Vannevar Bush, '16. He was general manager of the U.S. Atomic Energy Commission from 1947 to 1951 and has held other government and industrial posts.

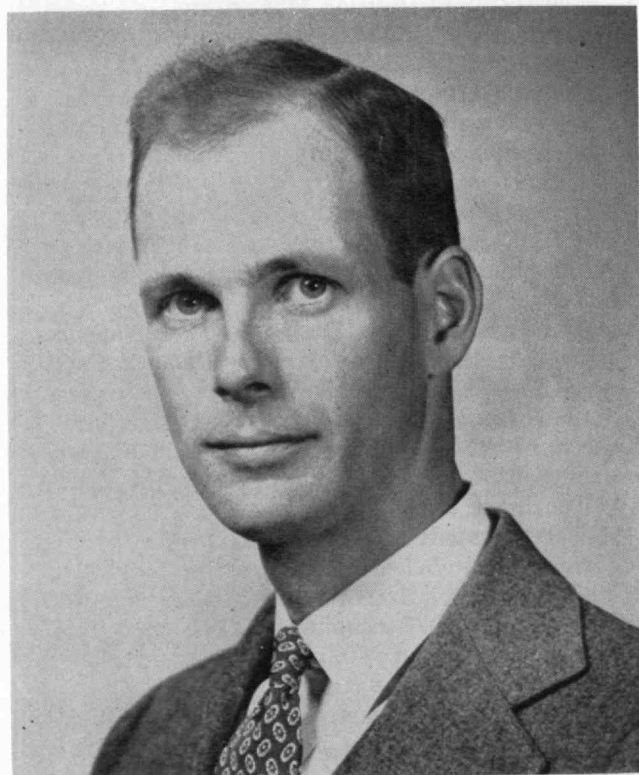
All three of the nominees for Alumni Term Membership on the Corporation are prominent in business:

Mr. Kimberly is chairman of the board of the Kimberly-Clark Corporation of Neenah, Wis., and the Spruce Falls Power and Paper Company of Toronto. He is a director of other concerns and a trustee of Lawrence College, the Rockefeller Foundation, American Forest Products Industries, the Episcopal Church Foundation, and the Institute of Paper Chemistry.

Mr. Semple is director and president of the Wyandotte Chemicals Corporation of Wyandotte, Mich. He has been president of his Class and is the Detroit Area chairman of the Second Century Fund. Mr. Semple is a director of several business firms and civic groups and is president of the Detroit Symphony Orchestra.

Mr. Bergen is president of The Martin Company of Baltimore. He is also a director of this company, the Baltimore National Bank, and the Black & Decker Manufacturing Company. He is chairman of the Baltimore section of the Second Century Fund, has been alumni representative on Visiting Committees, and is an honorary secretary for the M.I.T. Educational Council.

Nominees for three-year terms on the National Nominating Committee this year are John H. Holton, '17, Joseph Wenick, '21, C. Hall Baker, '22, Robert T. Dawes, '26, Gilbert M. Roddy, '31, Isaac H. Schwartz, '32, E. Philip Kron, '34, Armand L. Bruneau, Jr., '38, and Maxwell C. Coutts, '39.



D. Reid Weedon, Jr., '41

# Arms Control: The Great Issue

*The complexities of inspection, and need for more homework, are stressed by the M.I.T. men who conferred with the Russians*

THE Pugwash Conference in Moscow last November 27 to December 6 was an unofficial meeting of physical and social scientists. They attempted at this meeting to define the points of disagreement between the Soviet Union and the United States about disarmament. M.I.T. Professors Jerome B. Wiesner, Walt W. Rostow and Alexander Rich, and Richard S. Leghorn, '39, participated in this conference, and also took part in a televised discussion of the disarmament problem after they had returned to Cambridge.

Inspection and the possibility of a nation retaining hidden stocks of weapons was the crucial issue discussed in Moscow; the complexities of this question were emphasized in the televised report on it in Cambridge. Brief excerpts from some of the M.I.T. men's remarks follow:

WIESNER: We, as an open society, are really continuously being inspected. In fact, we have military journals which do a better job of providing all the information than is needed. . . . The Soviets, for a

THE TV PROGRAM entitled "Report from Moscow on Disarmament and World Security" was possibly the most significant single program ever telecast by WGBH-TV, according to Louis M. Lyons, this Cambridge educational station's news commentator. It lasted an hour and a half and a transcription of the participants' remarks totaled 15,000 words. This article includes only a fraction of that transcript.

Two of the participants have prominent positions in the new administration in Washington: Professor Wiesner is President Kennedy's scientific adviser, and Professor Rostow is deputy to the President's special assistant for national security affairs. The Soviet Union was represented at the Pugwash Conference by equally eminent men.

The other discussants in the WGBH-TV program were Professor Alexander Rich of the M.I.T. Department of Biology, Professor Paul M. Doty of Harvard, and Richard S. Leghorn, '39, President of the Itek Corporation. Their moderator was Laurence W. Martin, Assistant Professor of Political Science at M.I.T.

variety of reasons, have depended to a very large degree on secrecy and have now developed what I call an almost paranoid fear of the consequences of too much openness while military power still exists.

We, on the other hand, have developed tremendous fear of a surprise attack. We feel—and I think rightly—that accompanying any substantial disarmament there has to be a very substantial inspection. It is resolving this really serious difference in where our security comes from that the central problem of disarmament comes. . . . We are both going to have to do a great deal of technical studying and planning and military thinking before we can move forward in a really meaningful way.

To support our military strategy we have to have intelligence, and we pay a high price to get it. Therefore, it is militarily important for them to keep us from getting it.

LEGHORN: The Soviet military has a historic secrecy complex. In addition, the two main strategic values of secrecy to them are: (1) They have been covering up weakness—I am convinced that they still are. And (2) invulnerability—they are trying to hide their targets.

ROSTOW: When I looked at my notes, I came to the conclusion that 90 per cent of the dialogue fell under one heading: "Soviet secrecy—relative secrecy—and its consequence for American policy and attitudes." This was the central theme, really, from beginning to end. Any technical issue you touch becomes caught up in it.

WIESNER: They are a proud people. They have made unbelievable progress, in my opinion, in the development of their country since the war. They were terribly devastated. They've done a lot of building, a lot of developing, but they also have very many areas where, I think, they are still quite ashamed of the situation. I think it would be wrong to conclude, as many Americans do, that the secrecy is all there because it is covering up a plan for surprise attack on this country.

☆☆☆

RICH: We have systems now in which one weapon has the potential ability to kill one, or a few million, people. This is several orders of magnitude greater than anything we had before. This has led to a military or strategic philosophy of



Mauldin in St. Louis Post-Dispatch

Critical Mass



building up a sufficient number of weapons to deter an opponent from using them, and likewise on the other side. In a sense these two giant structures represent mutual deterrents and this would be a stable system if there were no perturbing factors.

The most obvious one is what's called the *n*th country problem. This is a slightly technical term, which refers to the fact that if two countries have atomic or nuclear weapons, one has to worry about a third country. At present there are four countries with nuclear weapons, so the *n*th country problem is really the fifth country problem today. When a fifth country has it, it will be the sixth. This is a problem that all of us worry about. It is a problem that the Russians seem particularly worried about, I think.

WIESNER: In all science and technology, it is doing something the first time that is extremely difficult and takes a few strokes of genius and brilliance. Doing it the second time is a good deal simpler.

ROSTOW: As the Soviets put it to us, we each have allies whose acquisition of these weapons would gravely complicate our lives. . . . The Soviet Union is worried about Germany and about China. . . . It's a question of the kind of power and control over your own destiny you can exercise in a situation where war can be triggered by random circumstances.

WIESNER: Nuclear weapons are a great equalizer, in much the same way that the revolver was in the wild West. You don't have to be six feet tall and weigh 240 pounds if you have a gun in your hands.

RICH: Another hazard is inherent in the weapons system: If you believe you are being attacked, you are required to respond very quickly. . . . Technological error comes in here . . . There is also the phenomenon of psychosis, where an individual in charge of a missile or submarine is mentally unbalanced, and this triggers off a war.

WIESNER: It's a question of how rational you will be if there is an accident. . . . If one of our cities or one of theirs is destroyed by accident there is no means of rapid communication that I know of that will stop some form of retaliation.

ROSTOW: I think that the Soviet delegates communicated—I think

under instruction, but nevertheless with great clarity and conviction—an array of concerns which very much match the array of concerns that any group of Americans would come up with: (1) the *n*th power problem; (2) the accidental war problem, and (3) the technological dead-end character of this thing combined with its growing costs.

☆ ☆ ☆

WIESNER: Through the years both we and the Soviets have oscillated between talking about quite limited measures in inspection and very elaborate measures. . . . I feel very strongly that I would not recommend any disarmament proposals to this country that didn't have fairly secure safeguards, but the kind of safeguards you need depends on the particular measures you are talking about.

If you are talking about limited measures, and violations could not be very serious threats to your national survival, the amount of inspection you require is different than if you are talking about total disarmament—which some of us believe not only requires a very considerable amount of inspection, and careful planning of inspection, but in fact even requires something beyond that: namely, some form of international security, which the Soviets are just now really beginning to talk about being willing to discuss.

I myself feel that we will pass to that stage slowly, and go through fairly comprehensive—but not zero or total—disarmament first, and then work out confidence-building schemes.

One of the important things to realize is that the amount of inspection we need is a function of just how much you want to disarm. We have both, in a sense, limited our arms today, because we have not built an infinite amount of military power, and we have a certain amount of inspection—it is unilateral, it is intelligence essentially, and it is what each of us is willing to tell the other.

Suppose that each country agreed that it was going to declare the size of its missile force and then on some programmed time scale reduce it. If the prior declaration by us or by them was wrong and if you were

(Concluded on page 38)



Professor Jerome B. Wiesner

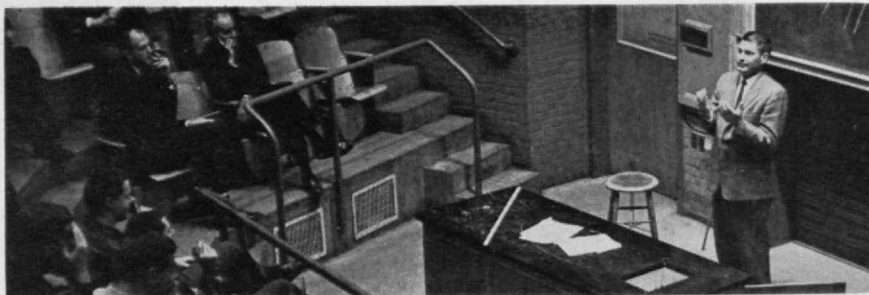


Professor Walt W. Rostow



Professor Alexander Rich

# Trend Of Affairs



## The Three-Deckers of Boston

MANY of our housing problems have been created by prosperity rather than poverty, Professor Lloyd Rodwin of M.I.T. suggests in a recently published history of the housing of Boston's middle-income families.\*

Boston's thousands of three-deck houses have been ascribed to an architect's mistake. Professor Rodwin, however, traces their popularity to the enactment of a building code which defined a house occupied by more than three families living independently as a tenement.

"Rather than risk the possibility of overpricing their market by erecting costly new legal tenements," Professor Rodwin writes, "builders and petty contractors resorted to two-family and three-family houses as inexpensive and altogether legal alternatives. Easy to put up, cheaper to sell, in several respects relatively better places in which to live, these structures sprouted almost everywhere."

In addition to reviewing their rise, his new book, *Housing and Economic Progress*, describes the growth of building and loan associations, tenure attitudes, and population shifts in Boston, in ways that are certain to interest everyone interested in real estate everywhere.

Economic progress, Professor Rodwin writes, has prompted or accentuated "the growth of families, rising standards of demand, the desires and problems of ownership, shortages of housing, controversy over rent controls, debate about suburbia, the dilemma of our 'gray' areas, and the current evangelical efforts to make our existing cities more delightful and efficient places."

He has focused attention on middle-income families "in the twilight zone between renting and ownership and between the families who need no assistance and those who require very special assistance." Such families now live in or are leaving "the miles of dingy neighborhoods meeting minimum standards, but not sufficiently adequate or attractive for their residents as standards of demand rise." The homes these families leave can serve lower-income families, and existing housing tools might be deployed effectively to serve the "transitional" population seeking better housing.

But whatever is done, Professor Rodwin warns, housing problems are more likely to be transformed than solved. "Only in a stationary society," he writes,



Once nearly half of Boston's dwellings had three decks.

"is it likely that there will be no significant discrepancies between rates of change of family income, standards of demand, and achievable conditions of housing; only in a very wealthy society are these discrepancies unlikely to be matters of genuine concern; and only in utopias can we be sure that our ingenious solutions will not occasionally boomerang . . ."

## Public Policy Conference

PRINCIPAL officers of companies participating in the M.I.T. Industrial Liaison Program spent the weekend following President Kennedy's inauguration discussing science and public policy at M.I.T. Speakers included Vannevar Bush, '16, James R. Killian, Jr., '26, and James McCormack, Jr., '37, of M.I.T. and Professor George B. Kistiakowsky of Harvard. Panel discussions were led by Dean John E. Burchard, '23, and Professor Ithiel D. Pool. The discussants included Professors Max F. Millikan, Robert M. Solow, Donald G. Marquis, Robert C. Wood, and Peter Elias, '44; Alexander G. Korol of the Center for International Studies, Dean Harvey Brooks, '45, of Harvard, and Patrick E. Hagerty, President of Texas Instruments, Inc.

\* "Housing and Economic Progress," published for The Joint Center for Urban Studies of M.I.T. and Harvard (Harvard University Press and the Technology Press, \$7.50).



## The Wiesner Report on Space

WHEN President Kennedy made Professor Jerome B. Wiesner of M.I.T. his scientific adviser, he also released the report of a task force headed by Dr. Wiesner which had reviewed the nation's space program for him. M.I.T. was also represented on this task force by Edwin H. Land, Visiting Institute Professor; Bruno B. Rossi, Professor of Physics, and Harry J. Watters, '53.

Although the group found that "our scientific program in space appears to be basically sound" and "we now hold a position of leadership in space science," it reported that "the nation's ballistic missile program is lagging" and "it is very unlikely that we shall be first in placing a man into orbit around the earth." The emphasis on the latter, the task force said, has tended to obscure "solid, durable, and worthwhile goals" such as an international television relay system, more knowledge of meteorology, and telescopes aboard satellites.

The report cited five reasons for having an effective space program: prestige, national security, scientific research, practical nonmilitary applications, and the "exciting possibilities for international cooperation with all the nations." To make the U.S. program more effective, it recommended organizational and managerial changes and such steps as "rapid development of boosters with a greater weight-lifting capacity," encouragement of "entirely new ideas which might lead to real breakthroughs," and efforts "to make space activities attractive to a larger group of competent scientists and engineers."

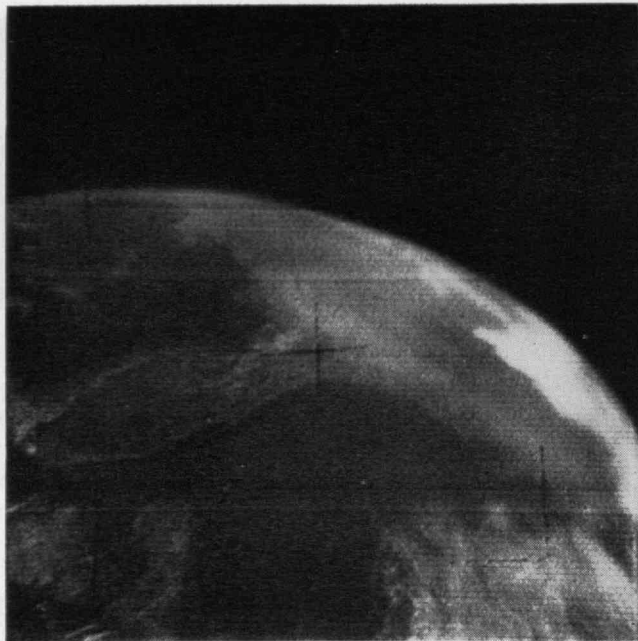
In reviewing the many potentialities of space work, the report said: "There is the distinct possibility that planetary exploration may lead to the discovery of extraterrestrial forms of life. This clearly would be one of the greatest human achievements of all times."

## An International Youth Service

THE PEACE CORPS plan drawn up for President John F. Kennedy by Max F. Millikan, Director of the Center for International Studies at M.I.T., would match the enthusiasm and dedication of young Americans with the man-power needs of underdeveloped countries. Thus it would (1) accelerate the development of those countries, (2) increase their people's understanding of our goals, and (3) both provide constructive opportunities for our young people and acquaint more of them with conditions elsewhere in the world.

In a memorandum circulated last winter, Professor Millikan suggested the establishment of a new International Youth Service Agency. It would provide funds for universities and other nonprofit organizations to arrange for the employment of qualified young Americans by foreign governments and institutions. They would help meet locally felt needs for assistance in carrying out educational, health, agricultural, industrial, and other programs.

"Most of these countries," he wrote, "are developing plans for the training of suitable numbers of their own citizens to fulfill these functions, but because training and education are inherently slow processes with long lead times the flow of indigenous personnel will be grossly inadequate in the early years. This gap in available skills could be at least partially filled and the modernization of these societies, so critical to their



Florida and clouds in the distance as seen from TIROS I.

stability, accelerated if they could make use of substantial numbers of people from the developed countries. The needs vary from one underdeveloped country to another, but in almost all there will be for at least the next decade serious shortages of trained people at all levels of education and experience. Preliminary studies in a few of these countries have established clearly that a part of this need could be met by young people with the equivalent of bachelor's or master's degrees in a wide variety of different fields."

Professor Millikan proposed that the men sent should be required to commit themselves to serve for two years, and not be exempted from selective service obligations. He emphasized the importance of careful selection, proper preparation, and adequate supervision of the participants. The program's value would be reduced, he warned, if it resulted in establishment of substantial American communities abroad. It should be a part of the broader American effort to help underdeveloped countries, he contended; and the new agency, in addition to surveying needs abroad, should look for ways in which foreign students sent to this country could perform reciprocal services.

Such a program could be launched experimentally at once, he believes, then closely studied and evaluated so that it could be expanded in the light of experience.

## Architects Hail TV Program

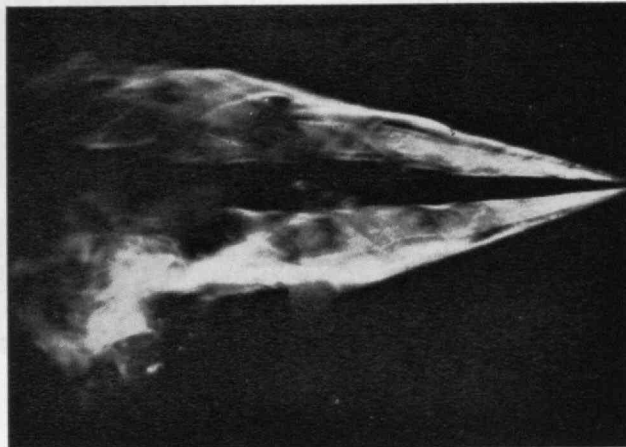
AT THE American Institute of Architects' meeting in Philadelphia in April a Special Citation will be given to the CBS television program, "Big City 1980," which was produced in association with M.I.T. Deans John E. Burchard, '23, and Pietro Belluschi of M.I.T. appeared on this program with Edmund Bacon, chairman of the Philadelphia Planning Commission, and Garry Moore of CBS. It dealt with the question: Will tomorrow's cities contain the best elements of today's cities, or merely compound the worse? Without doubt, said the *A.I.A. Journal*, this program advanced public understanding and appreciation of architecture.

## From Smells to Airfoils

STUDY of olfactory stimulation, in the Research Laboratory of Electronics at M.I.T., has resulted in the development of a novel aid to designers of ships, aircraft, and other vehicles. It is a refined, electrical way of making the fields of flow in a liquid clearly visible. Demonstrations of the technique by Walter Pitts, Bradford Howland, and Robert C. Gesteland, '57, in the laboratory's neurophysiology section have intrigued both engineers and artists.

The researchers were concerned originally, and still are, about what happens in one's nose when chemical information is turned into electrical information for transmission to the brain. While trying to devise a model of this biological process, they looked into the electrochemical effects of fluid motion past an electrode.

Luminescent chemicals have long been known. By placing them in a solution and moving an anode through it, or permitting it to flow past an anode, it was found that some of these chemicals could be triggered into glowing. The shape of the electrode, as they now show in their demonstrations, can be that of a cylinder, a sphere, a blade, an airplane wing, or whatever one wishes to study. The glow reveals the detailed structure of the flow pattern. An advantage of this technique is that the luminescence begins right at the surface of the electrode, and its extension into the wake can be con-



A photo of the glow of a solution flowing past an anode.

trolled by varying the contents of the fluid and the voltage in the circuit.

Photographs of the luminescence in the fluid are often quite beautiful as well as likely to be helpful in demonstrating and measuring hydrodynamic effects. In addition to photographing turbulence of various kinds, Mr. Howland has obtained pictures of the spiraling trails called the "von Kármán vortex streets."

Technical details of the method were given in recent RLE progress reports. The work was supported in part by Bell Telephone Laboratories, Inc., the National Institutes of Health, and the Teagle Foundation, Inc.

## Advice from Alumni

EVERY WEEK the M.I.T. Calendar of Events lists seminars and lectures on a great variety of topics, and the speakers often are Alumni. In January, for example, John W. Weil, '48, spoke on "The Dresden Power Station" at a Department of Nuclear Engineering seminar, and Donald P. Germeraad, '50, spoke on "A Test Pilot's Role in Transport Airplane Design" at an H. N. Slater Flight Transportation seminar.

Dr. Weil who is with the Atomic Products Division of the General Electric Company, in San Jose, Calif., discussed phenomena which must be considered in the operation and control of very large nuclear reactors.

Mr. Germeraad is chief test pilot for Convair's San Diego division and described his experiences with the Convair 660, 880, and 990 series of jets. He emphasized the importance of familiarity with the design of the plane that one is testing and the importance of reporting every reaction to a flight.

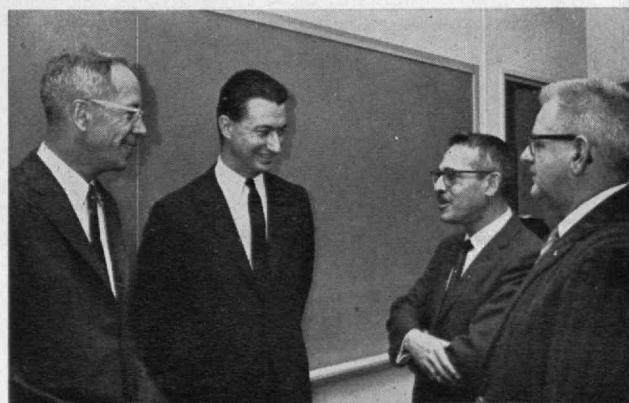
Lively discussions often follow lectures in such seminars.

## Basic Textile Engineering

IN THE December 15, 1960, issue of *America's Textile Reporter*, Peter M. Strang, '18, pointed out how basic engineering concepts, such as those of fluid mechanics, can explain machine-fiber interactions in carding, an important textile operation. His study exemplifies one phase of present thinking in the textile division of the Department of Mechanical Engineering at M.I.T. This correlation of the present state of the art of carding cotton with a scientific theory should help furnish a basis for future developments.



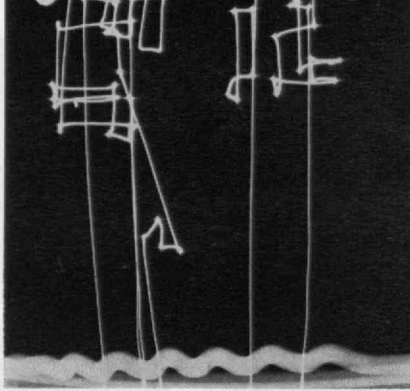
Professors F. K. Bentley and W. Prichard Jones with Donald P. Germeraad, '50, and Professor Otto C. Koppen, '24, at a Department of Aeronautics and Astronautics seminar.



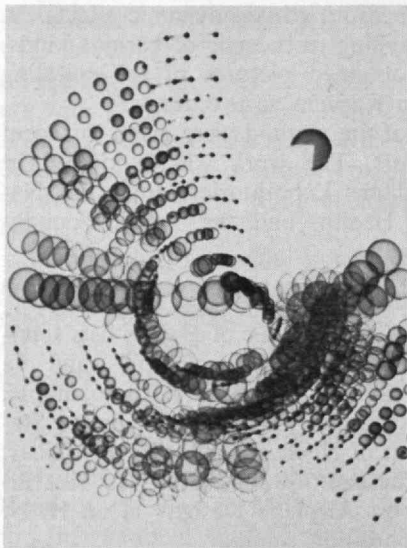
Professor Manson Benedict, '32, John W. Weil, '48, with Robert B. Flanders, '58, and Richard I. Buckley of Texas Instruments, Inc., at a nuclear reactor seminar.



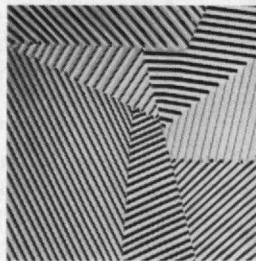
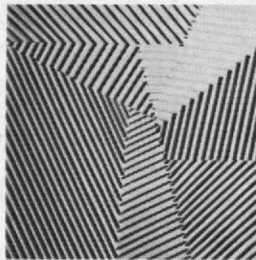
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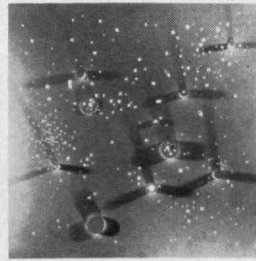
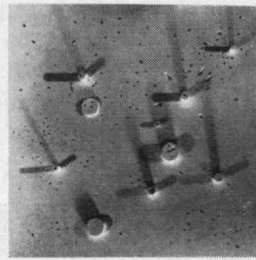
## Experimenting With Light



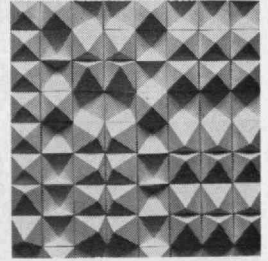
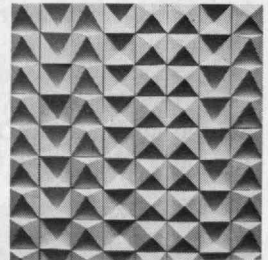
2.



3 and 4.



5 and 6.



7 and 8.

1. A drawing made with a flashlight (Gerald Ervin, '59). 2. A photogram made by exposing sensitized paper directly to light without a camera (Michael B. Flint, '59). 3 and 4. Modification of a surface pattern by changing light (Ki Suh Park, '59). 5 and 6. Changing emphasis by changing front and rear lighting (Park; and Leonard Saulnier, '59). 7 and 8. Modification of surface pattern by rearranging units in the same light (Barrios R. Parada, G). 9. Virtual volume—wire sculpture photographed in motion (Franklyn Williams, '59). 10. Experiment with light related to mirroring surfaces (Robert N. Fisher, '61). 11. A three-paneled mural with emphasis on continuity achieved by light (E. Haladay, '60).

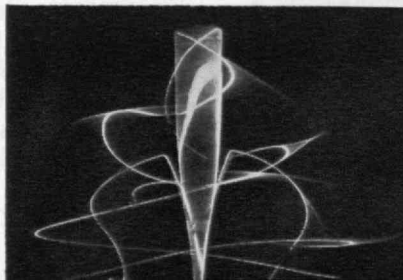
ARCHITECTS and planners demand more than comfort and amplitude in lighting: they realize the immense opportunities in designing with light. But knowledge of how to take full advantage of these opportunities is still needed.

In Light and Color classes in the School of Architecture at M.I.T., an effort is made to develop creative understanding of light. With a camera as a research tool, the orchestration of light is studied. These photo-

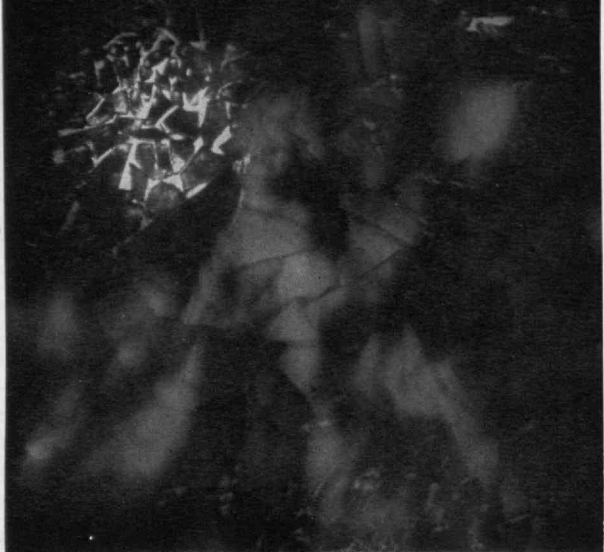
graphs, chosen by Gyorgy Kepes, Professor of Visual Design, and Assistant Professor Robert O. Preusser, are examples of work done by students in these classes.

"The imaginative use of light has been until now a neglected area in design," says Professor Kepes. "The creative use of light can be developed further in directions we have not even begun to explore, and an undreamed of wealth of aesthetic experience awaits us."

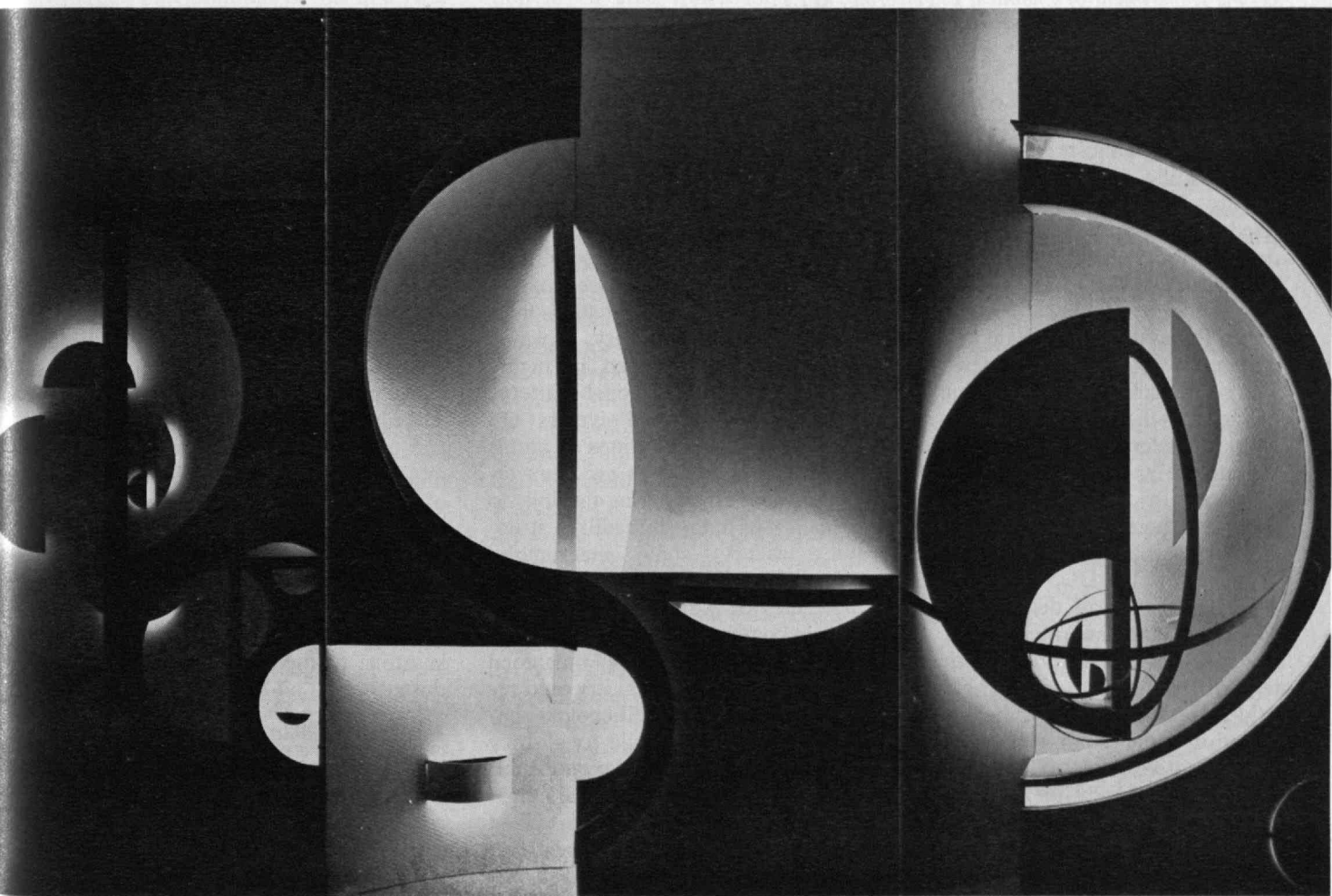
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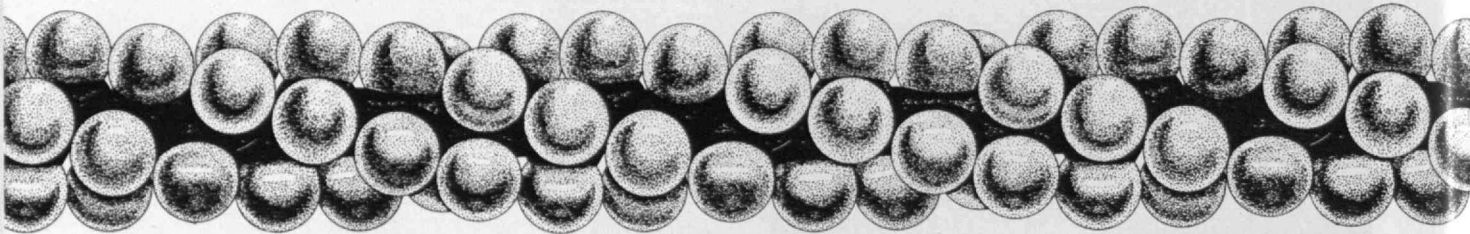
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11.







# The Growth of Polymer Science

*A new family of materials, made of long, tailored molecules, has gained importance rapidly, and its future is still promising*

BY F. W. BILLMEYER, JR., AND A. S. MICHAELS, '44

*Of the Department of Chemical Engineering, M.I.T.*

THE TERM "Materials Science" has gained prominence recently both in the public press and within the scientific and engineering community. "Materials" have been defined by a Faculty study group under the direction of Professor Morris Cohen at M.I.T. as "substances or aggregates whose properties make them useful to mankind for structures, machines or devices." The science of materials can thus be defined as the systematic development of interrelationships between the atomic and molecular structure of materials, their end-use properties, and their response to the environment in which they are fabricated and utilized.

These are broad definitions and encompass an enormous field of study. It may, therefore, be advantageous to form a picture of the field as a whole through the examination in some depth of a small but representative area of it.

One such family of "materials," whose practical utility is acknowledged by engineer and layman alike, is the class of substances designated by the scientist as "poly-

mers." The fabrics that clothe us, the wood of our houses, the rubber tires on which we ride, the plastic containers that protect our food—indeed, the very sinews of our bodies—are polymers.

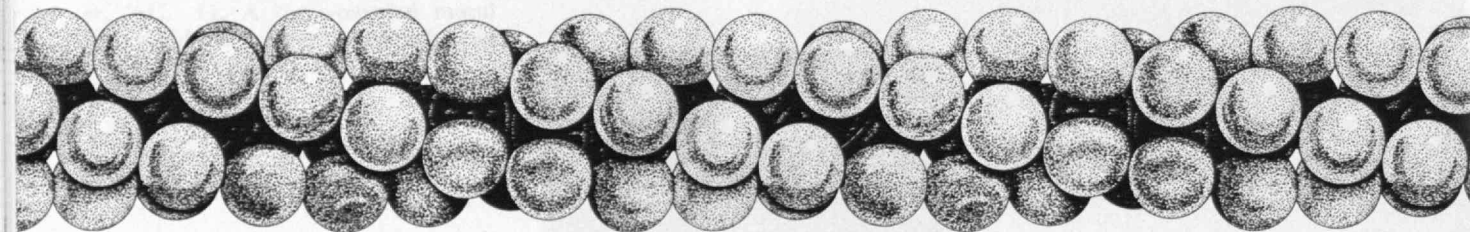
Like all other forms of solid matter, polymers are composed of aggregations of atoms; but they differ from metals and masonry, in which the atoms are arranged in highly ordered three-dimensional patterns known as crystals. Polymers are comprised of small groups of atoms (called "mers") which are connected together bead-string-fashion to form very long, threadlike structures called "chain macromolecules." The dimensions of the chain molecules of which a typical polymer is composed are impressive: if such a molecule were magnified about 15 million times, it would resemble a strand of well-cooked spaghetti about half a mile long! In a single cubic inch of a polymer, about 20 billion billion of these chainlike molecules are intertwined and tangled with one another; electrical forces acting between the chains cause them to stick to-

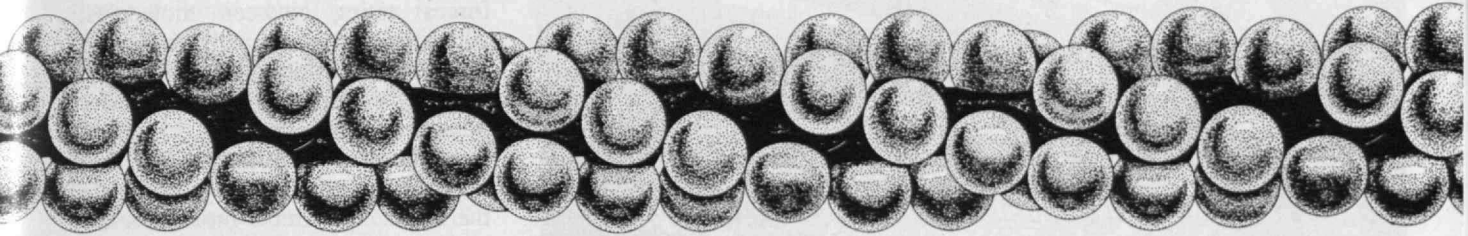
gether, imparting to the material a combination of properties which no other class of solid or liquid substances possesses.

The elasticity and abrasion resistance of rubber, the strength and toughness of synthetic fibers, the stickiness of adhesives, the flexibility and clarity of photographic film—all of these properties are intimately associated with the long-chain nature of polymer molecules. The ability of the chemist and chemical engineer to tailor-make such molecules from an immense number of different raw materials, to control their size within close limits, and to alter at will the forces acting between them, constitutes one of the major technological triumphs of the century, and provides the keystone of the modern plastics industry.

## Rubber, Celluloid, and Bakelite

While an awareness of the chainlike nature of polymers and of the interrelationships between their properties and their structure has developed only in the last 40 years, man's utilization of polymeric materials





has a long and fascinating history. In prehistoric times, our forebears relied upon hides, fur, and wood for survival. Asphalt and natural gums such as the sticky exudates from conifers are mentioned in pre-biblical records. Wool and flax have clothed man for thousands of years. Cultivation of the silkworm in China is traced back to 2640 B.C., and the art of papermaking, to the first century A.D. Rubber was "discovered" by Columbus on his first New World expedition, although how long this substance had been known to the Brazilian and Caribbean Indians never has been established.

The beginnings of the modern plastics industry lay in the utilization of natural rubber for erasers and rubberized fabrics—strangely, not until some 300 years after Ferdinand and Isabella scoffed at the Old World's first rubber ball. The first major breakthrough in the utilization of rubber did not come until Goodyear's accidental discovery of vulcanization in 1839, which led to the development of a major new industry in England and the United States. Commercialization of many other modified natural products (such as "Celluloid") and the first truly synthetic plastics (Bakeland's "Bakelite" phenolic resins) followed quickly on the heels of the rapidly expanding rubber industry, so that by the end of World War I, a vigorous new chemical industry was in the making. Yet despite its rapid growth, the industry was guided much less by scientific principles than by art and empiricism. Few people knew or cared much about what was actually going on in the steaming tanks from which

the sticky goos were drawn, or why these products behaved as they did. The term "polymer," and the concept of the chain macromolecule, were still nonexistent.

At this time, Warren K. Lewis, '05, of M.I.T.'s then fledgling Chemical Engineering Department, saw the opportunity—through his professional contacts with the paper, leather, and rubber industries—to establish an educational position in an area which most scientists of the day regarded with derision. Dr. Lewis' subject, "Industrial Chemistry of Colloidal and Amorphous Materials," dealt in an imaginative way with the physics and chemistry underlying such poorly understood phenomena as the vulcanization of rubber, the tanning of hides, and the hydration of cellulose fibers.

The establishment of this course of instruction in 1920 proved to be a milestone in the teaching of applied polymer chemistry. The Lewis inspiration had its enduring impact upon the staff, students, and chemical industry, with the result that formal instruction and active research in this area have continued to grow and expand with the times; today, the Department of Chemical Engineering at M.I.T. offers no less than five elective subjects relating to polymers and colloids, and nearly half of its Faculty are to varying degrees engaged in research in these fields.

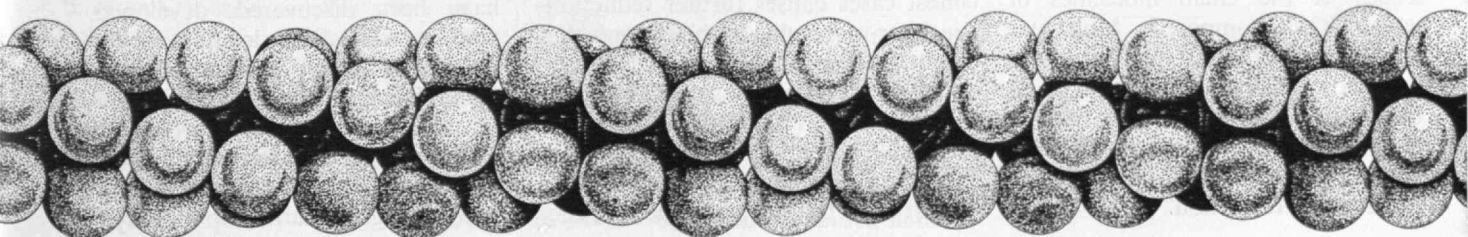
#### **Macromolecular Architecture**

At the same time that Lewis was launching his educational experiment in Cambridge, Herman Staudinger in Germany was laying the

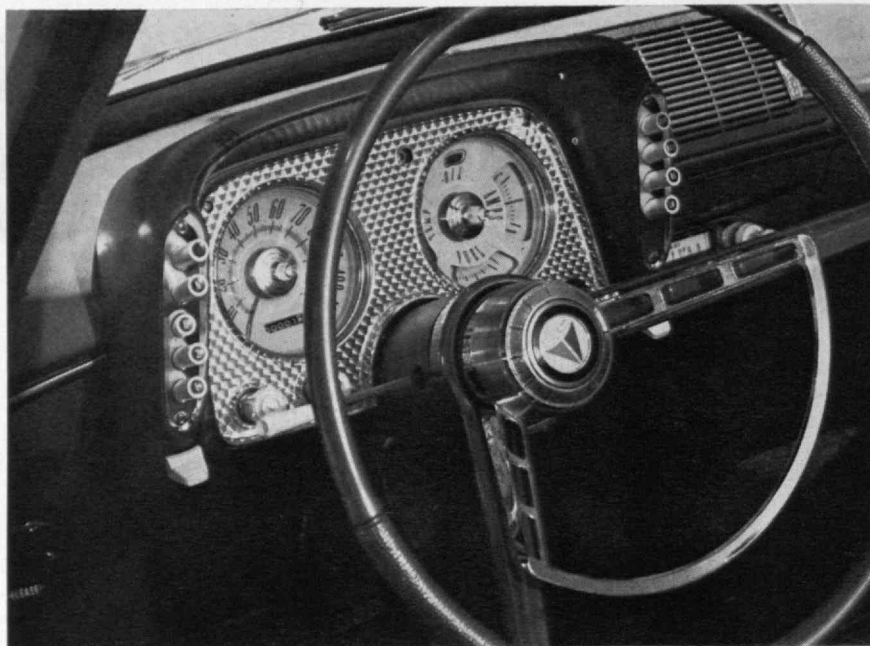
foundations of modern polymer science with a monumental series of experiments proving the existence of long-chain molecules, which were to earn him the Nobel prize in Chemistry in 1953. In 1920 he proposed long-chain formulas for several polymers, and his extensive investigations left no doubt as to their long-chain nature. More careful molecular weight measurements substantiated Staudinger's conclusions, as did x-ray studies showing structures compatible with chain formulas. The outstanding investigations by P. J. Flory and W. H. Carothers in this country beginning in 1929 supplied quantitative evidence substantiating the macromolecular viewpoint, by demonstrating that large, chainlike molecules could be made by any of a variety of well-established organic reactions.

The subsequent progress of polymer science from the early work of Staudinger, Flory, and Carothers can be followed along two major lines of endeavor: the development of an understanding of the relationships between the macroscopic properties of plastics, resins, fibers, and elastomers and their molecular architecture; and the discovery and development of new or improved techniques for the chemical synthesis of polymers from a wide variety of raw materials. The former constitutes the rapidly growing field of polymer physics, and the latter, polymer chemistry.

It is now well established that such important end-use properties of a polymer as strength, flexibility, toughness, solvent resistance, and heat resistance are related in rather

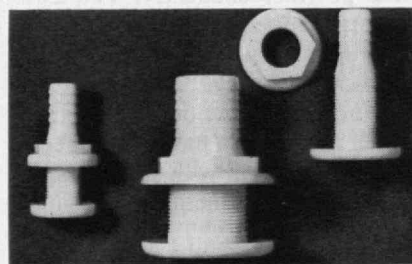
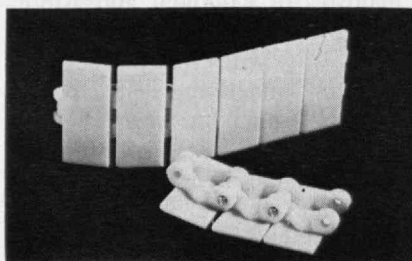
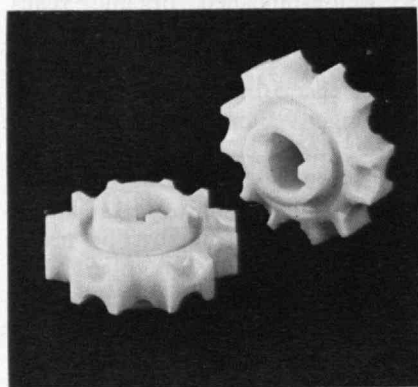






## Some of the Uses for Polymers Now

Long molecules such as you saw on the preceding pages are used in auto steering wheels and dashboards. Some of the many other forms in which you encounter these plastics are shown at the right and below.



predictable ways to the size of the molecules comprising the material, the atomic make-up of the building blocks or "mers" which are strung together to form the molecules, and the degree of regularity with which these building blocks are interconnected. At elevated temperature, for example, the fluidity of a molten plastic is determined largely by the length of the chain molecules of which it is composed. Molecular size thus determines to a large degree how easily a plastic may be fabricated, and also at how high a temperature it may be used as a structural material without undergoing serious distortion.

As a plastic melt is cooled, forces between adjacent molecules come into play which retard slippage between chains, but may not be sufficient to prevent rather long segments of chains from moving relative to one another under stress; under these conditions, the polymer exhibits a high degree of resiliency or rubberiness. Further cooling in most cases causes further reduction in inter-molecular mobility, and the material passes through a leathery to a brittle or glassy state. The temperature levels at which a particular polymer experiences these transitions in mechanical behavior are controlled by the magnitude of the

forces acting between molecules, which in turn is uniquely related to atomic composition.

Many polymers whose molecules possess a high degree of structural order undergo an interesting and important change as they cool from the melt: the chain molecules associate intimately and regularly with one another in the form of small crystallites, which impart to the solid a surprising degree of toughness and strength. Such crystalline polymers, exemplified by polyethylene and nylon, account for virtually all natural and synthetic fibers, and are receiving increasing attention as super-strength plastics for use as metal substitutes. Elucidation of the microstructure of these polymers is one of the most active and exciting aspects of polymer physics today, and recent discoveries relating to the crystallization phenomena and resulting polymer morphology portend the development of materials with heretofore unattainable mechanical and thermal properties.

### Newly Exploited Reactions

In polymer synthesis, accomplishments over the past 20 years, and particularly during the last five, have been equally dramatic. Flory's so-called vinyl polymerization, which had its beginnings in the manufacture of polystyrene, has now expanded to include an impressive array of familiar plastics and elastomers. Such important products as butadiene-styrene rubber, polyethylene, poly(vinyl chloride), and the acrylic resins are vinyl polymers manufactured today on a massive scale. Carothers' methods, which led directly to the synthesis of nylon, have more recently been improved and extended to the manufacture of poly(ethylene terephthalate) ("Dacron"), and polyester resins used in glass-reinforced plastic laminates.

In addition to the increased applications of these conventional techniques of polymer synthesis, entirely new polymerization reactions have been discovered, developed, and commercialized, leading, for example, to epoxy resins, polyurethane foams and elastomers, polyoxymethylene, and polycarbonates, whose properties and applications are yet to be fully exploited. Perhaps the greatest triumph of syn-

thetic polymer chemistry in recent years has been the discovery of a new family of catalysts for vinyl polymer synthesis which yields chain polymers of amazingly high structural regularity. By this means, it has been possible to create "stereospecific" polymers with extraordinary mechanical strength and thermal stability, using inexpensive starting materials, such as propylene, which have heretofore been useless as polymer intermediates. These catalysts have also led to new routes for the manufacture of "synthetic natural rubber"—the culmination of a challenge which thwarted synthetic chemists for the better part of a century.

The recent rapid advances in the study and control of polymer structure have brought to light striking similarities between polymers and other important materials such as metals, ceramics, and glasses. Recognition of these similarities has made polymer science and engineering exemplary of a trend in modern technology which is having an important impact upon scientific thought and educational practices.

In its formative years, polymer science was regarded as the restricted domain of the physical and synthetic organic chemists. As the unique properties and potential utility of polymers became better appreciated, specialists in ever more diverse branches of science and engineering became interested in them as subjects for careful study. Today, polymer science is so broadly interdisciplinary in scope as to defy identification with any one technological specialty: physicists study polymer microstructure; structural organic chemists and quantum mechanicians attempt to unravel the mysteries of stereoregular polymerization mechanisms; electrical engineers examine the dielectric properties of polymers; mechanical engineers explore stress-strain and failure-phenomena; solid-state physicists investigate transitions and semiconductivity; biophysicists and biochemists seek, in the study of polymerization mechanisms and polymer structure, the origins of heredity in living systems, and the source of the life process itself.

From rather inauspicious beginnings, the science of polymers has thus developed in the brief span of

40 years into a major field of scientific endeavor, utilizing virtually all the skills of today's technology. The far broader area of materials science and engineering, of which polymer science is but a small fragment, presents an opportunity for interdisciplinary activity which can hardly fail to lead to major scientific and practical achievements. M.I.T., with

its diversified scientific and engineering interests, has been quick to recognize its unique ability to exploit this opportunity, and is well along the road toward the establishment of a trans-departmental teaching and research program in materials. This program promises to be a noteworthy feature of M.I.T.'s Second Century objectives.

## Objects and Plan

OF AN

## INSTITUTE OF TECHNOLOGY;

INCLUDING

A SOCIETY OF ARTS, A MUSEUM OF ARTS, AND A  
SCHOOL OF INDUSTRIAL SCIENCE.

PROPOSED TO BE ESTABLISHED IN BOSTON.

Prepared by Direction of the Committee of Associated Institutions of Science and Arts;

AND ADDRESSED TO

MANUFACTURERS, MERCHANTS, MECHANICS, AGRICULTURISTS, AND  
OTHER FRIENDS OF ENLIGHTENED INDUSTRY  
IN THE COMMONWEALTH.

BOSTON:

PRINTED BY JOHN WILSON AND SON,

22, SCHOOL STREET.

1860.

IN THIS, one of the first pieces of printed matter regarding M.I.T., William B. Rogers and others responsible for founding the Institute called for "the most earnest cooperation of intelligent culture with industrial pursuits" and said "the subject of Applied Chemistry would . . . claim an important place in the plan of instruction proposed here."



# Books

**THE UNIVERSE AT LARGE**, by Hermann Bondi; Doubleday & Company, Inc., (95 cents). Reviewed by Harlow Shapley, Harvard's distinguished astronomer and Life Member of the M.I.T. Corporation.

IN SELECTING this small book by Hermann Bondi, the Physical Science Study Committee has definitely succeeded in its aim of helping to "provide a survey of physics within the grasp of the young student or layman." Some readers may have wished to hear less of Olber's Paradox and the tides, and more about Mars and the Moon, and at least a mention of extraterrestrial life; but they can't have everything in 150 pages.

It is refreshing to see an astronomical surveyor start off with four chapters on galaxies rather than the usual routine overemphasis on the rather trivial solar system (cosmically speaking). And we welcome the practical common sense that Bondi shows and encourages when he warns of the tentative nature of many of our pretty scientific theories and the scantiness of our cosmographic observations.

"It is not the purpose of any scientific theory," wisely remarks Dr. Bondi, "to be infallible or final or true. Its purpose is to be fertile; to suggest new observations that suggest new ramifications of the subject."

These 12 chapters are reprinted from *The Illustrated London News*. If they had been written especially for the committee there would probably have been fewer slips and fewer incomplete presentations; but the slips are not serious.

The "big bang" and the "steady state" cosmogonies are fairly presented, and the vulnerabilities of both are pointed out. We are still a long way from knowing much about origins and destinies in the sidereal world.

**MICHELSON AND THE SPEED OF LIGHT**, by Bernard Jaffe; Doubleday, Anchor (95 cents). Reviewed by Ralph D. Bennett, former Professor of Electrical Measurements at M.I.T., who is now Director of Research, The Martin Company, Baltimore, Md.

I HAVE read Bernard Jaffe's splendid story on *Michelson and the Speed of Light* with much pleasure. It was my good fortune to be a student of Dr. Michelson's in the early 1920's, when I had his courses in wave motion and physical optics. At that time he was America's outstanding physicist and a man of great dignity and imposing bearing. He held forth in frock coat and wing collar at 11 on Mondays and Wednesdays, and then quizzed us orally at 11 on Fridays. Sometimes we failed to understand all the steps in his derivations, which led to long hours of discussion, and sometimes reproduction from memory, if not from understanding, at the blackboard on Friday.

Mr. Jaffe has faithfully depicted Michelson's complete absorption with science, and relative indifference to people. I doubt if he knew the members of his classes



From Mt. Wilson and Palomar Observatories

**A 200-inch photograph of a barred spiral nebula in Pegasus.**

well enough to be sure which person was associated with which name on the class roll. We never felt sure we were recognized when we spoke to him respectfully on meeting him in the halls of Ryerson Laboratory. And, by my time, he had long since foregone graduate students, leaving these to Gale, Lemon, and others.

In my association with the University of Chicago, I had the opportunity to see much of Michelson's famous equipment. I was led into the Ryerson basement holy of holies by Fred Pearson to see the ruling engine that made the "perfect" 8-inch grating (the thermostat was reputed to have stuck!), and one of my colleagues used the 10-inch grating in his thesis—both accurately described by Jaffe. I visited the Clearing, Ill., setup for his last ether drift test—a very long streetcar ride into the prairies then. The Mount Wilson-Mount Baldy light velocity experiment was still active when I visited Mount Wilson in the mid-1920's. The star diameter interferometer was there too, and later I also saw the Irvine Ranch experiment for measuring light velocity in a vacuum. Mr. Jaffe has depicted all these accurately as I recall seeing them when I was a young physicist.

Finally, it was my good luck to be present at the dedication of the Michelson Laboratory at China Lake, Calif., on which occasion John Nicholas Brown, Secretary of the Navy, Robert Millikan of Cal Tech, and Beatrice Michelson Foster were the principal speakers. Mr. Jaffe has performed a service in calling attention to the existence of this collection of Michelsoniana and its availability to the interested public.

The importance of a biography such as that of Michelson by Jaffe is great. The first half of our century produced heroic figures in science at a time when a man could conceive and carry out, with a couple of skilled assistants and a few thousand dollars, an experiment which could reshape the whole world of physics. These stalwarts were an inspiration to my generation, and should continue to be to the young people now growing up. Some of these young people may be encouraged to turn to science because of such portrayals of the lives and works of these great men.

# Psychology's New Status at M.I.T.

*A graduate curriculum and research program is being devised in this rapidly growing science*

BY ROGER BROWN

*Associate Professor of Social Psychology*

ONE of the uses of psychology in an institute of science and engineering was demonstrated in a recent television program. This *Tomorrow* program, telecast in connection with M.I.T.'s Centennial, was entitled "The Thinking Machine," and dealt with the development, the uses, and the future of computers.

People are interested in doing two kinds of things with the high-speed digital computers now available: Some are trying to program these machines to get answers to problems in the most efficient manner possible. Efforts also are being made to program the machines to get answers to problems in the same way that human beings do.

The human way is not always the quickest or surest way. It is worth while, nevertheless, to simulate the external aspects of human intellectual performance because, when the simulation is good, the internal information processing may be the same in both cases even though the respective hardware and software are quite different. Since the precise description of regularities in human performance is the business of psychology, this science is the indispensable partner of electronic simulation and neurology in the lofty enterprise of figuring out how the human brain works.

## Our Roles in Groups

M.I.T. has long been concerned both with the advancement of knowledge and with its applications, and since 1952 has had a School of Industrial Management as well as schools of science and engineering. Industrial management is primarily concerned with accomplishing business objectives by means of human instrumentalities. The Faculty concerned with training men for management necessarily, therefore, takes a lively interest in the work of social psychology. Consider the following questions:

❑ Under what circumstances is the small problem-solving group successful in accomplishing its tasks and in gratifying its membership?

❑ Is it possible that the successful group passes through a regular set of phases and produces certain essential types of leadership?

❑ Is it furthermore possible that successful groups require the participation of certain kinds of personalities; that one might write a recipe of the human ingredients required for effective group functioning?

These are questions that have been studied by systematic experiments. In one procedure, six or seven men are called together to work out a solution to a hypothetical problem in human relations. While they work at the problem, they are unobtrusively observed

WORK in psychology at M.I.T. is being strengthened now as recommended last June by a Committee on the Social Sciences headed by Max Millikan, Professor of Economics. In this article, Professor Roger Brown (who is pictured at the right) explains why and how psychologists have become important participants in the Institute's educational and research programs and reviews the growth of this science.



Professor Brown is especially interested in language and communication. He came to M.I.T. in 1957 after teaching at Harvard and the University of Michigan. He is a member of the Behavior Science Section of the National Institute of Mental Health and his recent book, "Words and Things," was a selection of both the Basic Books Club and the Library of Science Book Club.

by a research team that codes their interactions into a dozen content categories, such as:

"Gives suggestion,"

"Shows tension release,"

"Agrees,"

"Asks for opinion."

A gradual differentiation of roles is revealed by the tendency of one man to specialize in pushing toward problem solution (the Idea Man), while another specializes in taking care of the social-emotional needs of the participants (the Best-Liked Man).

Naturally, the School of Industrial Management at M.I.T. and the Industrial Relations Section in the Department of Economics are intensely interested in this kind of work, and also in the current studies of what is called the Achievement Motive, various studies of behavior in organizations, and of the determinants of changes in attitude.

## Wherever You Look

There are now about 30 psychologists at M.I.T. They are in the Research Laboratory of Electronics, at Lincoln Laboratory, in the Center for International Studies, in the School of Industrial Management, and in the Department of Economics and Social Science. Furthermore, M.I.T. has long been a distinguished name in psychology because of such work as the studies of group dynamics by Kurt Lewin and Alexander Bavelas, '48, and the pioneering application of the mathematical theory of information to human behavior by



George Miller and J. C. R. Licklider. One of the most popular undergraduate options in the School of Humanities and Social Science is the psychology sequence offering students an opportunity to study such topics as Motivation, Learning, Perception, Language, Theory of Personality, and Social Psychology.

In view of all this past and present activity, it may seem surprising that the June, 1960, report of the Committee on the Social Sciences called for the creation of a distinguished psychology unit at the Institute. There was something important to call for, however, and the committee recognized it by asking that the "highest priority" be given to the proper establishment of psychology as one of the Institute's fields of interest. Having psychologists perform service functions for a variety of research centers and teach a few undergraduate courses is not enough. Research psychologists want to train graduate students, so a doctoral program is needed. Although some developments in psychology are immediately useful to established nonpsychological units at the Institute, other highly promising developments are not. To make sure that the best things are recognized and developed at M.I.T., an independent psychology unit is needed. M.I.T. clearly can make a distinctive and important contribution to psychology itself, and this is something we owe to our society.

President Stratton's response to the call from the Committee on the Social Sciences was both prompt and appropriate: He appointed Professor Hans-Lukas Teuber, an eminent student of the brain and behavior, to head an expanded Psychology Section. Professor Teuber comes to M.I.T. from New York University and the N.Y.U.-Bellevue Medical Center, and his appointment, as President Stratton has said, "marks the serious entry

of psychology as a behavioral science at M.I.T." Under his leadership, psychologists at the Institute now are devising a graduate curriculum and research program.

### The Growth of Psychology

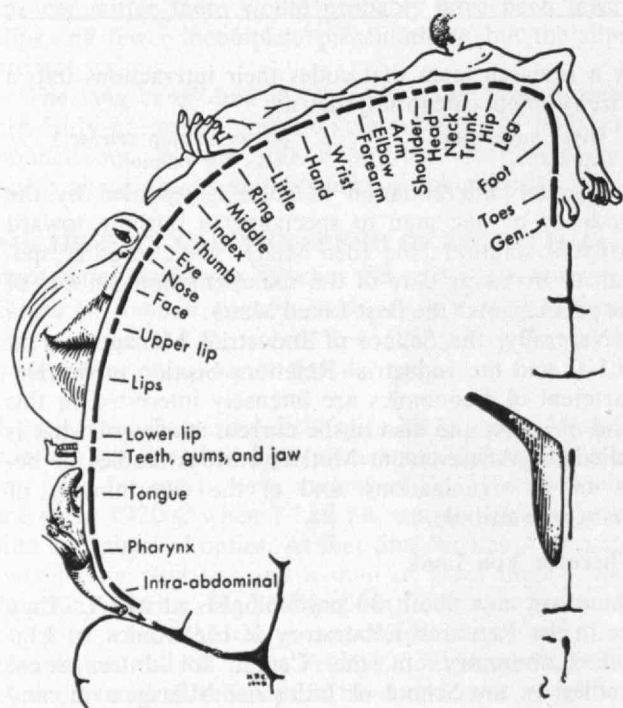
The extraordinary thing about psychology is its enormous subject-matter range: from near-physiology to near-sociology and near-psychiatry. If a Committee on the Natural Sciences had been at work last year, it quite likely would have called, as did the Committee on Social Sciences, for an independent psychology unit at M.I.T.

The systematic study of human behavior developed a number of growing points during the second half of the Nineteenth Century and the early years of this century. One of these growing points was in the physiology of the sense organs, and such men as Hermann von Helmholtz can be numbered among the first psychologists.

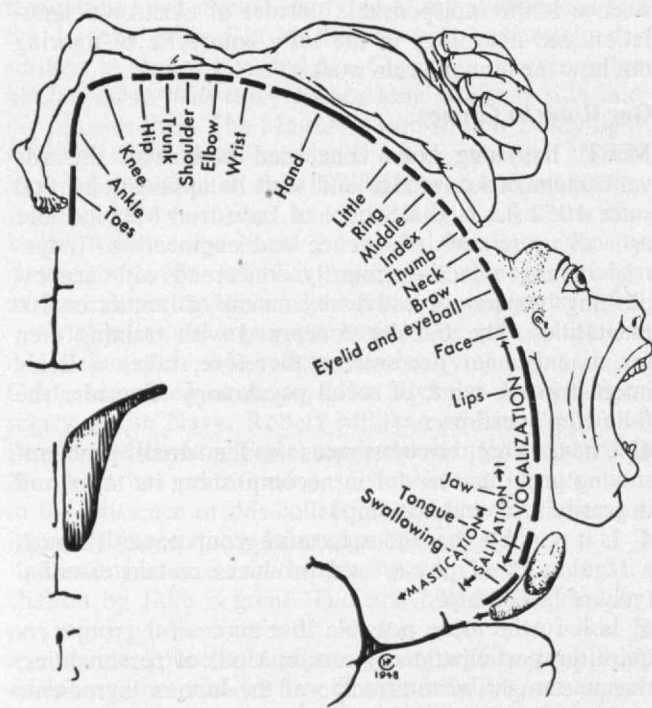
Hermann Ebbinghaus began the study of human learning by serving as his own subject in the rote memorization of nonsense syllables. Sir Francis Galton devised a method for studying the associative processes, the technique of word-association, and, in later years, Pavlov developed a very general method to a similar end—the conditioning of reflexes.

Edward Thorndike began his studies of trial-and-error learning by putting a cat in a box from which it could escape by learning to operate the latch. In 1905 the school authorities of Paris set Alfred Binet the problem of devising a test that would identify school children whose intelligence was so low that they could not profit from attending school, and the result was

*(Concluded on page 50)*



**SENSORY HOMUNCULUS:** This is the topographical arrangement of the sensory area which is in general concerned with sensations from the skin. The relative sizes of the areas representing different regions of the body correspond to the fineness of discrimination possible for those regions.



**MOTOR HOMUNCULUS:** The motor area of the cerebral cortex is in general concerned with skilled movement. This drawing indicates its topographical arrangement. The relative sizes of the areas representing different parts of the body correspond to the relative dexterity of those parts.

# Institute Yesteryears

## 25 Years Ago . . .

PROFESSOR DAVIS R. DEWEY, Head of the Department of Economics, contributed his views upon the current depression to *The Review* in part as follows:

"Economic depressions have their compensations, for at least we can see economic laws working to completeness. They do not have to be reviewed by a supreme court. It is not often that the economist has such a well-equipped laboratory at his disposal. . . .

"No discussion of economics is complete nowadays without some reference to the New Deal. I dislike the term 'New Deal.' It savors too much of a game of idle amusement in which chance plays a considerable role. I should prefer 'New Plan,' and I have hoped for a New Plan long before the present depression set in. However, if we must talk about the New Deal, let us use the language of the card player.

"Much of the present New Deal is wrongly named; it is an Old Deal, based on rules which economics junked years ago. If we are to have a New Deal, let us have the cards played by those who know the rules. As yet neither party has emerged from the rules of Victorian whist; it is time to bring the rules down to date.

"This is an age of contract and big and little slams and disastrous penalties for getting set. Revoking is too common, and too frequently the player trumps his partner's ace. We need to pray for . . . a bridge mastermind, and the kibitzers should not crowd the players. Psychic bids should be rigidly shunned.

"Some of us think that playing the Deal according to sound economic rules might not only restore prosperity, but lead to a continuous abundance whereby the standard of living will ever be raised."

¶ Professor *Harold K. Barrows*, '95, was elected President of the Boston Society of Civil Engineers, and *Richard S. Holmgren*, '19, received that society's Clemens Herschel Award.

## 50 Years Ago . . .

IN THE *Boston Herald* of March 10, 1911, there appeared an account of an interview with President Richard C. Maclaurin concerning the Institute's proposed removal from the Copley Square area. Said the *Herald*:

"A feeling against moving away from Boston and the problem of taxation of college property in Cambridge are two reasons against moving Technology to Cambridge, in the opinion of President Maclaurin. It is known that among the sites now under consideration by the Executive Committee of the Institute's Corporation two or three are in Cambridge. . . ."

¶ President Maclaurin's statement on the Cambridge location, as quoted by the *Herald*, was:

"The advisability of our going to Cambridge is being urged upon Technology from a large number of sources.

Invitations have been received from the mayor of Cambridge, the Cambridge Taxpayers' Association, Cambridge Club, Citizens' Trade Association, and many prominent business and educational men of the city.

"I have also received numerous petitions from the people of Cambridge asking for favorable consideration to locate the Institute on land bordering on the Charles River esplanade. There are many sites bordering on the Charles River and a number of them offered us have many attractions from the point of accessibility and expansion. Some of this land can be obtained at a very reasonable price.

"The objections to going to Cambridge mainly refer, first, to moving the Institute away from Boston, and secondly, to taxation of college property.

"Technology has been associated throughout its history with the city of Boston and there is a strong feeling that the school of applied science should continue in that association.

"There has apparently been much unrest in Cambridge by a certain few people at having so much property in the city exempt from taxation. From this alone there might be serious objection to increasing the amount of property which would come outside the taxable list.

"If the Greater Boston plan should go through, the first objection would be removed, and no one can doubt that the Institute going to Cambridge and locating on the water front would greatly add to the wealth of the city and save the Charles River esplanade from being occupied by manufacturing plants and other commercial structures."

## 75 Years Ago . . .

THE CLASS OF 1887, reported *The Tech*, "having learned that 'capital arises solely out of savings,' has taken initiatory steps toward the formation of a co-operative society. Societies similar to the one proposed flourish at Harvard and Yale, and the students at such a practical and progressive place as the Institute should be quick to appreciate the advantages to be derived from such an organization."

¶ And in an adjoining column, it was noted: "A bicycle club has been formed at the Institute. Its membership is already large. Two very successful runs have been held. . . . It is said that a large number of '87 men witnessed the eclipse of the moon on the night before the condition examination in physics."

## 86 Years Ago . . .

ON MARCH 17, 1875, in the Institute building at 491 Boylston Street, Boston, there assembled 23 graduates at 7:00 P.M. for the express purpose of perfecting the organization of the Alumni Association of M.I.T.

## 100 Years Ago . . .

ON MARCH 19, 1861, the Joint Standing Committee on Education of the General Court of the Commonwealth favorably reported a bill for the incorporation of the Massachusetts Institute of Technology. On March 25, the bill was ordered to be engrossed by the House; and on March 29, the same action was taken by the Senate.



# M.I.T. Athletes Are Successful in Winter Sports

**M**ID-TERM exams at M.I.T. this year found the intercollegiate athletes with satisfactory records.

Coach Jack Barry's Basketball Team had won three straight games and had a 5-5 record when it left on February 1 for a four-day, three-game road trip. Dave Koch, '62, had averaged 22.4 points a game and appeared destined for "All" honors in Boston and possibly New England.

The Rifle Team was probably New England's "hottest" squad. It had eight victories behind it on February 1, and had only been defeated once—by the U.S. Naval Academy. The score: Navy 1441; M.I.T. 1428.

The Varsity Wrestling Team was unbeaten. Its mid-term record was four victories and two ties, and Coach Alex Sotir expected his matmen to continue their winning ways. Springfield College was considered the only serious threat ahead.

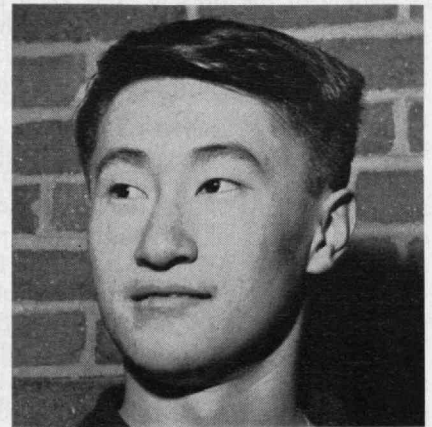
The Hockey Team surprised nearly everyone except Coach Ben Martin, who had predicted a good season. As of February 1, his hard-skating well-conditioned team had won four times and lost only twice. One victory was over W.P.I. by a whopping 11-to-0 score.



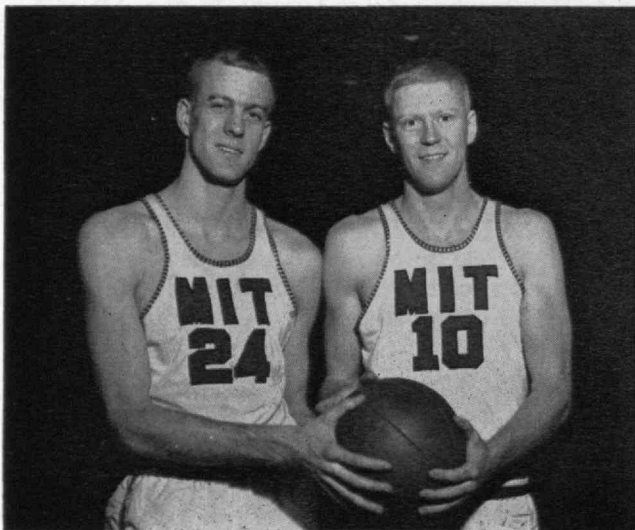
By February 1, the Hockey Team had four victories and only two defeats.

Swimming Coach Charlie Batterman spent part of his Christmas vacation in the hospital, having both knees operated on. His Swimming Team had won four victories and experienced one loss to date, and a couple of excellent freshmen were churning up and down the Alumni Pool to encourage him.

Indoor trackmen were less fortunate; they finished last in three meets. The Pistol Team had faced tough competition and lost most of its matches, and the Squash Team had won only one of eight contests. The fencers were about .500 at the half-way point.



James Y. Tang, '63, of Hong Kong is M.I.T.'s star soccer player.



David H. and William I. Koch, both '62, and sons of Fred C. Koch, '22, have been key men on the basketball squad.



Rifle Capt. William L. Leffler, '61 (left), with Coach Ireland, Richard M. Harris, '63, and Ronald J. Pellar, '61.

# BUSINESS IN MOTION

## *To our Colleagues in American Business . . .*

When Tube-In-Strip\* was announced in January, 1956, Revere engineers felt that it would have many varied uses but they never dreamed that those uses would prove as diversified as time has shown them to be.

Since the introduction of Tube-In-Strip, designers and engineers in some 64 basic industries, representing thousands of applications, have been applying this versatile product in the solution of specific problems, the improvement of existing products, and the development of new products. To give you some idea of what can be done with Tube-In-Strip, we cite the following examples:

AS A HEAT RECLAIMER in an industrial laundry, Revere Tube-In-Strip saved \$1,485.37 in a four-month period. During that time 200,000 more pounds of laundry were washed than in the previous four months, at a \$100 saving in steam cost. Prior to that time, due to a limit on the amount of steam that could be purchased, the laundry had to use lower water temperatures and operate on a two-shift basis. The heat reclaimer consists of a battery of 30 panels, with 3 panels of Revere Copper Tube-In-Strip, riveted together, measuring 48"x82" overall. The unit reclaims heat from the used wash water and uses it to heat the incoming fresh water. This is done by channeling the used wash water around the Tube-In-Strip panels while the incoming fresh water is heated as it flows through the tubes. The savings in steam costs arises from the fact that incoming fresh water does not have to be heated nearly as much to bring it up to washing temperature.

AS A REFLECTIVE RADIANT COOLING UNIT in a bakery, Revere Copper Tube-In-Strip saves up to 30% in production while vastly improving product quality. The radiant cooling unit which is used to set chocolate-coated

cookies and biscuits, consists of a 108'-long tunnel, fully enclosed. On top and bottom of the tunnel are nine 8' sections of Revere Copper Tube-In-Strip through which is pumped a cooling medium at 8 to 12 degrees F.

Through cooling radiation, this properly sets the chocolate within 4¾ to 5 minutes. A drying unit is also included in the installation, where 250 cu. ft. of super-dry air per minute are forced between plates of Revere Copper Tube-In-Strip at a temperature below zero.

AS WATER-COOLED BUS BAR Revere Copper Tube-In-Strip makes possible substantial savings in the manufacture of semiconductor rectifiers for a leading electrical product manufacturer. It eliminates the possibility of leaks, results in more efficient cooling, enables the user to change cells without draining the system which is completely sealed, thus eliminating the need for O-rings or gaskets.

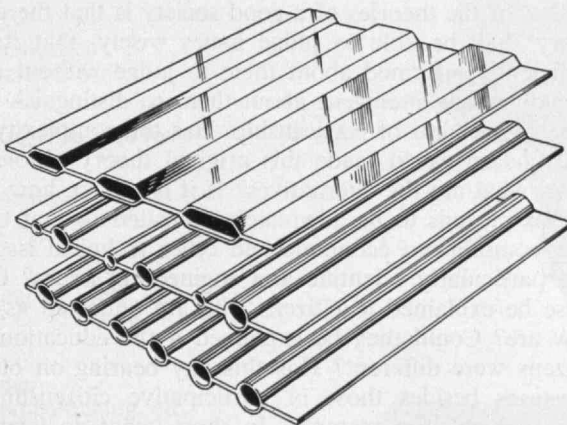
AS AN\* ELECTRIC HEAT FIN ELEMENT Revere Aluminum Tube-In-Strip is used to heat homes with electric baseboard. The manufacturer who replaced former units with this versatile

product reports increased efficiency and simplification of design of heating elements, lower case temperatures and substantial savings in manufacturing costs.

These are just four of the thousands of ways Revere Tube-In-Strip, of copper, copper-base alloys, aluminum and aluminum alloys, can save money . . . improve product quality.

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\*Tube-In-Strip is a solid piece of flat sheet or strip metal with "built-in" passages that may be inflated, by pressure, into tubes. Thus the tubes become an integral part of the metal.



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## The Centennial Conference

(Continued from page 13)

and by graduate education? Is there danger that the solution of trying to make everyone "fundamental" may result in an insufficient supply of "doers"? Should some students be trained as practitioners of the art and others for frontier research and development? What about the role and education of the technician?

A great concern is felt because so much of the support of science and technology comes from the military and is therefore biased. Is this true? Is it bad?

It is sometimes claimed that the engineer does not extend his vision to the large social and cultural problems of society. Is this true, and if so, what can or should be done about it? How should the educational system be connected to social needs? Should any special efforts be made to guide students in their choice of fields of study to improve the balance between selection of career fields and the needs of the society?

*Interactions of Science, Engineering, and Society:* Given a world in which science and engineering will inevitably play such a large part, what measures are to be taken so that citizens can steer technology instead of having it steer them? The problem has at least two prongs.

One of the theories of a good society is that the citizenry shall be able to judge issues wisely, that it be sufficiently informed about them to judge without aid, or sufficiently intelligent about them to distinguish between the claims of partisanship. Has the complexity of the modern world made this original theory obsolete? If so, what are the alternatives? If it is not so, how are the lay citizens to be adequately educated so that they may comprehend economic and other technical issues; and particularly scientific and engineering issues? Can these be explained to citizens who are educated as we now are? Could they be explained if the education of citizens were different? Has this any bearing on other questions besides those of participative citizenship—philosophical, for example? In short, what do laymen need to know about science and its applications? And how can they be taught this as they go through present types of education, in school, in college, in the processes of adult education?

On the other hand, there are questions concerning the education of the scientists and engineers themselves in the areas which are not scientific. Do their new responsibilities of a managerial and political sort find them in any serious way unprepared by their education? Are they any more naïve than anyone else in matters of social or political conduct? Can they learn anything useful from formal exposure to the disciplines that study such matters? Or must they learn what they need to learn only through experience? Engineering education has taken the position that something must be attempted along these lines and thus curricula have contained subject matter in the humanities and the social sciences. Has this really been meaningful? Could it become so?

In the end, both questions merge in the large question of how the most educated members of society who are the specialists of all sorts can find it possible any longer to communicate with each other and whether any

(Continued on page 34)



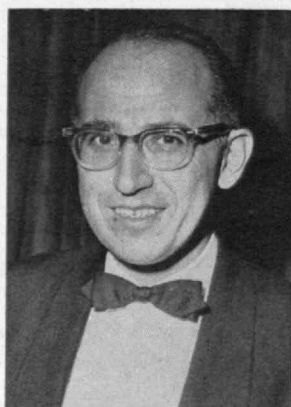
Sir John Cockcroft



Chen N. Yang



Hermann J. Muller



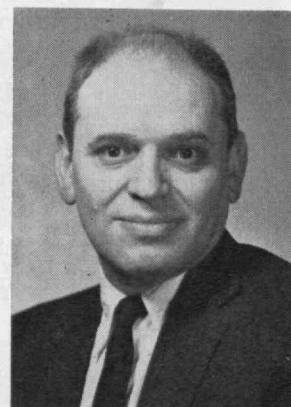
Jonas Salk



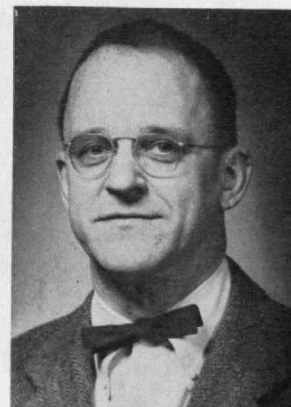
Richard S. Leghorn, '39



Martin Deutsch, '37



Walter A. Rosenblith



Max F. Millikan

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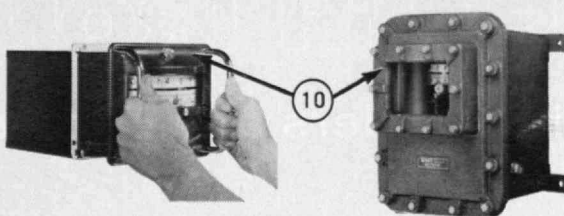
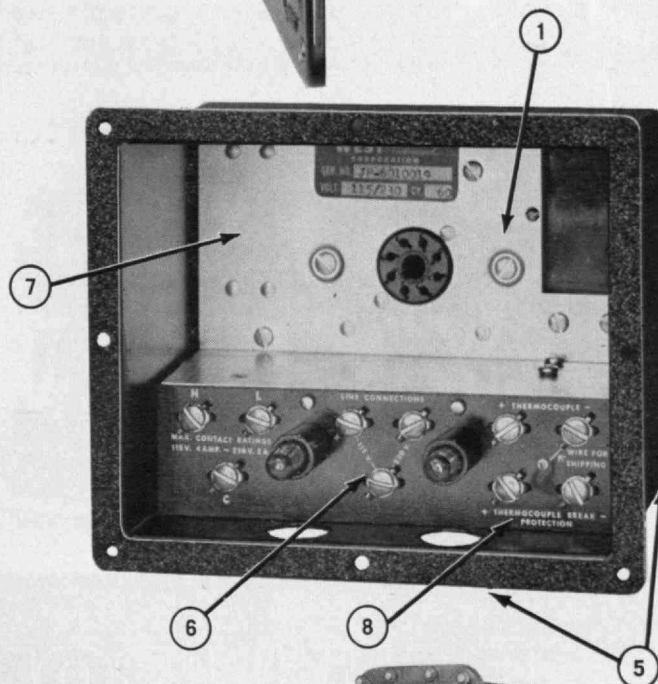
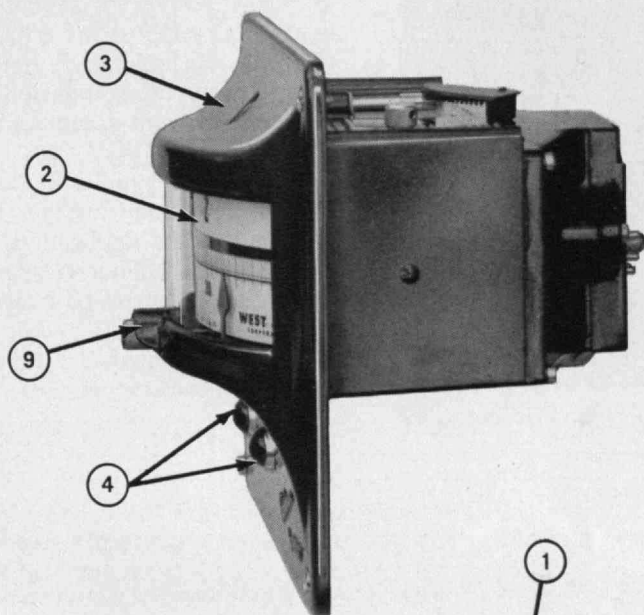
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## The Centennial Conference

(Continued from page 32)

formal measures of curricular or university organization can in fact improve the present situation.

*Implications of Science and Engineering for International Relations:* The essential base for a modern society is the application of science by engineering, medicine, and the like. The applications are not amoral. They can be directed to increase the material well-being of peoples: they may also be employed to create more efficient armaments which, in the complexities of competition between nations, have potentialities for universal destruction. The policies of governments are therefore increasingly dependent upon technical possibilities which are available to them.

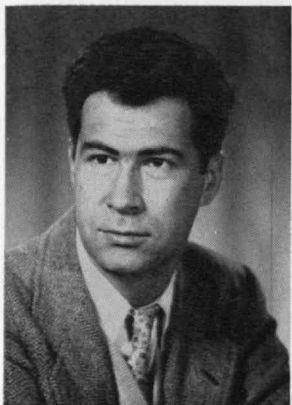
Clearly, as societies become more interdependent, an increasing number of bases for world loyalty and identification, as opposed to national loyalty and identification, may be imperative. If this be true, radically new criteria as to the responsibilities of governments must be developed and accepted, initially by peoples of the technically advanced areas but ultimately by all. Regardless of the validity of these particular conclusions, they suggest many avenues for fruitful exploration.

What are the implications for education of the extent to which technological progress is increasingly influencing the course of international relations and the evolution of societies? What are the responsibilities of scientists and engineers to understand the impact of technical developments on political forces? How can

(Concluded on page 36)



Richard P. Feynman, '39



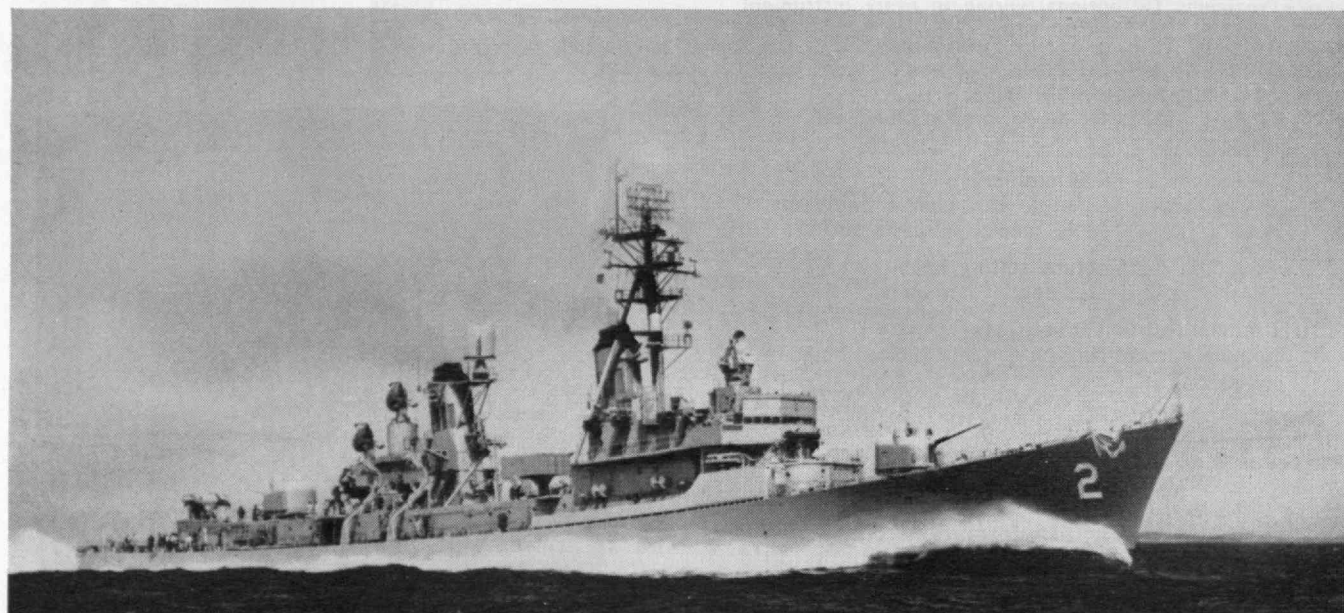
Francis L. Friedman, '49



Gordon S. Brown, '31



Jerrold R. Zacharias



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## New Books from the M.I.T. Press

### Carl Becker: A Biographical Study in American Intellectual History

By **Burleigh T. Wilkins**

An intellectual biography of a famous historian, this book presents the many phases of Becker's life—from Iowa farm boy to Professor of History at Cornell University and President of the American Historical Association. This study gives valuable insights into the evolution of the American historical profession during the 20th century. \$5.50

### Housing and Economic Progress: A Study of the Housing Experiences of Boston's Middle-Income Families

By **Lloyd Rodwin**

Boston, an old city with adequate records, is the subject of this statistical study of rising income and the effects on middle-income housing conditions in the past century, including expenditure patterns, rent levels, standards, landuse patterns, middle-income housing movements, tenure issues, and theory of residential growth and structure. \$7.50

### International Education in Physics

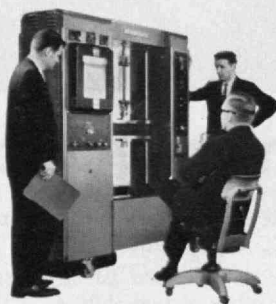
By **Sanborn C. Brown and Norman Clarke**

Proceedings of the International Conference on Physics Education held in the UNESCO House in Paris in 1960 under the auspices of the International Union of Pure and Applied Physics. The book contains formal resolutions, papers, and lists of modern teaching aids for the improvement of physics teaching around the world. \$4.50

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## The Centennial Conference

(Concluded from page 34)

technology be fruitfully applied to the solution of international problems? How can scientists and engineers contribute to world understanding and cooperation? What kinds of professional associations between societies at different stages of economic development are most constructive? What are the lessons of the UN Atoms-for-Peace conferences, the International Geophysical Year, CERN, and other such enterprises?

### Authors of Background Papers

BACKGROUND papers to be discussed at the International Conference are being prepared by the following:

On Scientific and Engineering Education in Newly Developing Countries: **P. M. S. Blackett**, 1948 Nobel prize winner in physics and Professor of Physics, Imperial College of Science and Technology, University of London; **W. Arthur Lewis**, Principal, University College of the West Indies, and former economic adviser to the government of Ghana; **Robert S. Morison**, Director, Medical and Natural Sciences, The Rockefeller Foundation; **Eni Njoku**, Professor of Botany, University College, Ibadan, Nigeria; **Jerrold R. Zacharias**, Professor of Physics, M.I.T., and member of the President's Science Advisory Committee; **D. S. Kothari**, Professor of Physics, Delhi University, India.

On Scientific and Engineering Education in Countries with More Advanced Technologies: **Gordon S. Brown**, '31, Dean, School of Engineering, M.I.T.; **H. D. G. Casimir**, Professor, Director, Chairman of the Board, Nuclear Energy Division, Royal Institute of Engineers, The Netherlands; **Francis L. Friedman**, '49, Professor of Physics, M.I.T.; **Willis Jackson**, Director of Research and Education, Associated Electrical Industries, Manchester, England; **V. A. Kirillin**, member of Soviet Academy of Sciences; **Shun-Ichi Uchida**, President, Tokyo Engineering College, Japan.

On Interactions of Science, Engineering, and Society: **Raymond Aron**, Professor of Political Science, Sorbonne, Paris; **Eric Ashby**, former President and Vice-Chancellor, The Queen's University, Belfast, and Master of Clare College, Cambridge; **Lucio Costa**, Brazilian architect who designed the city of Brazilia; **Aldous Huxley**, Visiting Professor of Humanities, M.I.T.; **Humayun Kabir**, Minister for Scientific Research and Cultural Affairs, India; **Adam Schaff**, member, Polish Academy of Science, Professor of Linguistics, University of Warsaw, Poland; **A. V. Topchiev**, Vice-president, Soviet Academy of Sciences.

On Implications of Science and Engineering for International Relations: **Pierre Auger**, Chairman, French Committee for Space Research, and former Director, Department of Natural Sciences, UNESCO; **Lloyd V. Berkner**, President, Graduate Research Center, Southern Methodist University, and former member, President's Science Advisory Committee; **Homi J. Bhabha**, Director, Tata Institute of Fundamental Research, Bombay, and Chairman, Atomic Energy Commission, India; **George Brock Chisholm**, Director General of World Health Organization; **Isidor I. Rabi**, 1944 Nobel prize winner in physics, Professor of Physics, Columbia University, and member of the President's Science Advisory Committee.



Don Rasmussen (left), owner of the DHRCO Distributing Company, discusses his new insurance program with New England Life representative Reese Allen.

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Reese Allen enjoys working with top-level businessmen like Don Rasmussen. Not long ago, Reese established a \$125,000 insurance program for him. Mr. Rasmussen, obviously pleased with the plan, has asked Reese to meet with his attorney and assist in setting up a corporation with a buy and sell agreement and related insurance program.

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## Arms Control

(Concluded from page 16)

to go down to zero, you could come to a very dangerous situation for the fellow who was playing the game squarely—where he might have no force available and be faced by a hidden stockpile.

It has been our contention that if one not only made a declaration and turned over weapons to the control authorities on some schedule, but also allowed completely free access for inspection to build up while the stockpile was being reduced, the error that could exist at any given time would get smaller and smaller. So the permitted safe limits would be considerably smaller.

RICH: What I found a little bit encouraging was their willingness to say it seems reasonable to them to couple the degree of inspection to the degree of disarmament.

WIESNER: We would like a lot of inspection before we do very much disarming, and they would like a devil of a lot of disarmament before they permit much inspection.

ROSTOW: The homework hasn't been done in the United States, and certainly not in the Soviet Union. There's a whole range of problems involved quite aside from the inspection problem. If you go below a certain level of mutual deterrence, you run into the deep unsolved problems of world order, international unrest. . . .

As I sat there, a nonscientist listening to the scientists talk, I sometimes felt I was in a very hopeful new world and sometimes I felt I was mad. . . . The sense of madness arose because simultaneously with our presence in Moscow there was the summit meeting of the 81 Communist parties, and as we are talking now we have Cuba, Laos, and Congo. . . . I think it's per-

fectly clear that the equivalent of partial disarmament is the establishment of some new political rules which would govern competitive coexistence. I myself don't think you're going to have any serious disarmament unless the Communists stop shipping arms across the borders of the free world.

LEGHORN: As far as the Soviet scientists are concerned, I became convinced that they want a disarmed world primarily because of their fear of the *n*th country (particularly Germany and China); secondly, because they think they can take over better in a disarmed world through stepped-up nonviolent competition; and thirdly, because they'd like to free up their economic and technical resources so that they can take over better.

But I am not sure how much they represent governmental thinking. . . .

ROSTOW: I see no reason to change my own prior views that we should go on as rapidly as we can to secure a situation where we are not vulnerable to a surprise attack. . . . With respect to the underdeveloped areas, my feeling of urgency about building nonmilitary connections was simply increased. . . . I don't think any of us, from the evidence we have, can assess the weight within total Soviet policy of the strand we were privileged to examine. But I think it's the high duty of the next administration to find out what the specific gravity of this element is. There's only one way we are going to be able to find out, which is to develop our own arms control and disarmament plans, with which we can stand up before the world with confidence, and which will permit us to deal with whatever propaganda element there is, and have proposals that we are prepared to live with should they be acceptable.

## Jobs Wanted in Small Businesses

GRADUATE STUDENTS in the M.I.T. School of Industrial Management are looking for jobs with small business concerns. Twenty-seven men, averaging 25 years in age, who expect to receive master's degrees in June, have indicated a preference for employment in a small concern rather than a large firm. This is the second year that such students have set up a "Business Search Group." Some of this year's participants are interested in summer employment rather than permanent posts.

Interested employers are urged to write to Business Search Group, Room 52-152, 50 Memorial Drive, M.I.T., Cambridge, Mass.



## PHILIP STOCKER AND MARK WHEELER DISCUSS THE NEW SYMBOL THAT REPRESENTS THE PERSONALITY OF THE NEW ENGLAND MERCHANTS NATIONAL BANK

*Mr. Stocker and Mr. Wheeler are Senior Vice Presidents of the newly-formed "New England Merchants".*

**STOCKER:** That's quite an array of symbols, isn't it?

**WHEELER:** It's hard to believe that so many could be designed to express the personality of our Bank.

**STOCKER:** What's amazing is that all of us were unanimous in choosing the lighthouse.

**WHEELER:** It seems to sum up so well all the things we wanted to say about ourselves. A lighthouse is New England and our symbol says we're a New England regional bank and that we're committed to the future of New England.

**STOCKER:** I'd also say it symbolizes several other things we stand for: guidance . . . security . . . safety . . . even

enlightenment. One of our most important jobs is to shed light on all kinds of money problems.

**WHEELER:** Yes, and you might add that it stands for our policy of steady help and counsel to our customers.

**STOCKER:** Now that we've grown in size, this policy grows in depth, doesn't it, in our commercial activities, our Trust Department, and in all our services to the individual customer. And we're planning new *kinds* of service in all these fields.

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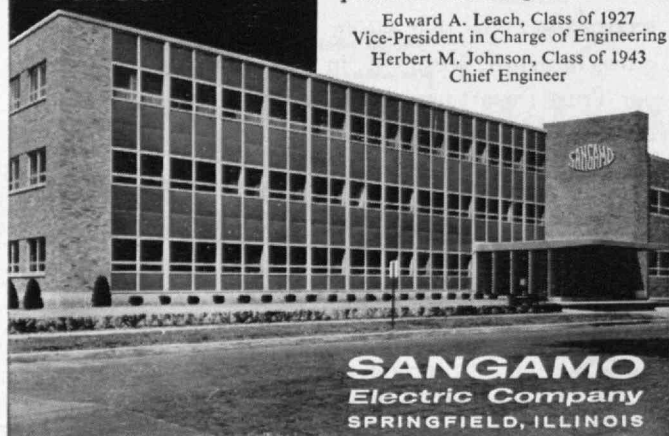
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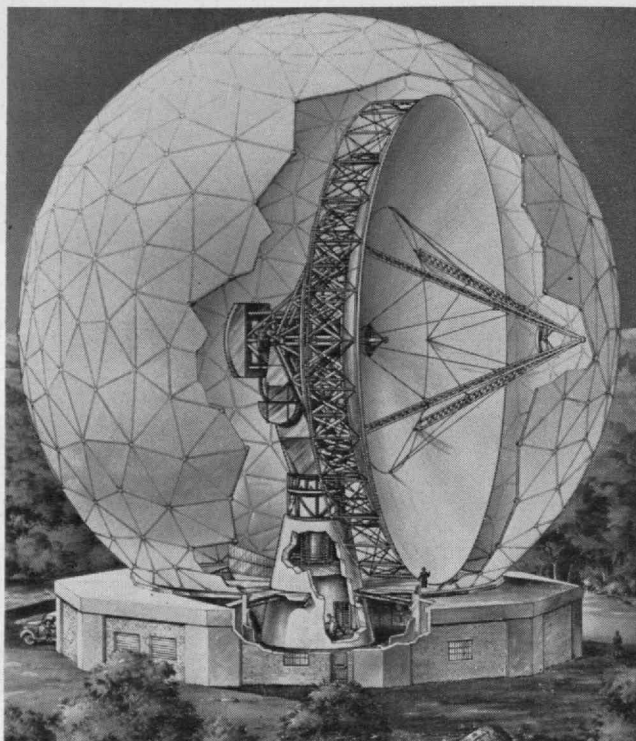


## Trend of Affairs

(Continued from page 19)

### The Dome on Haystack Hill

ON HAYSTACK HILL, near Lincoln Laboratory's other big antennas at Westford, Mass., a new and larger "dish" is being erected this year. This precision paraboloid antenna for high-power radio research will be 120 feet in diameter—and the very antithesis of a haystack. Specifications call for holding the parabolic contour to about  $\frac{1}{16}$ th of an inch over the whole antenna surface in all orientations.



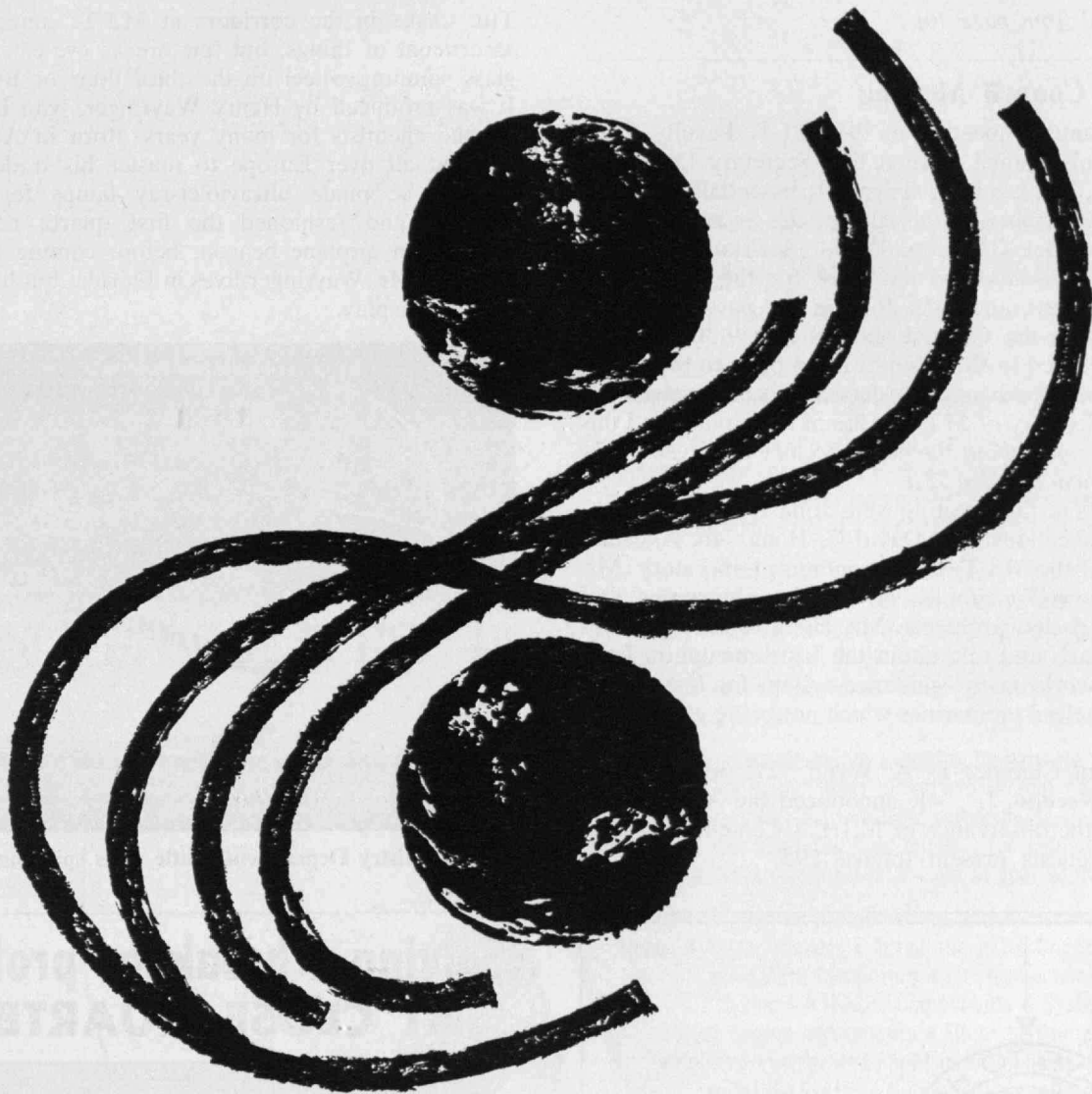
An artist's conception of the edifice in Tyngsboro, Mass.

It will be used to study the characteristics of a global radio communication method on which Lincoln Laboratory has been working for some time,\* and be adaptable for research in radio or radar astronomy. It is expected, in fact, to make it possible to detect a metal ball only a quarter of an inch in diameter at a distance of 1,000 miles, and to be helpful in efforts to examine the surface of Venus.

A radome 150 feet in diameter will protect the huge reflector from the wind and sun. This will stand on top of a 10-sided building which will house the main power supply, auxiliary apparatus, and offices. The transmitting and receiving apparatus will be in a box directly behind the feedhorn in the center of the reflector. This 8-by-8-by-10 foot "room" will be capable of holding up to 4,000 pounds of apparatus, and so constructed that it can be unplugged and replaced by a different package of electronic circuitry whenever the operators want to put the antenna to a different use.

Lincoln Laboratory will operate and evaluate this new facility for the Air Force. North American Aviation is building it. Operational testing is scheduled to begin late next year.

\* See "Useful Belts in the Sky," Technology Review, November 1960, p. 23.



**Said Johann Kepler:** *"The planets move in elliptical orbits about the sun, and the square of their periods of revolution are proportional to the cube of their mean distances from the sun."*

With interplanetary voyages fast becoming a reality, complete information regarding the velocity requirements for travel between planets is of vital importance. With these data available, it is possible to analyze propulsion requirements, plan ultimate system configurations, and conduct feasibility studies for any particular mission.

Lockheed Missiles and Space Division scientists have actually evolved a rapid-calculation method, utilizing a high-speed computer. This has produced literally thousands of orbits, velocity requirements, and elapsed time, for design studies of trips to and from both Mars and Venus—every tenth day from now until January, 1970.

More simple to analyze are many factors which make Lockheed Missiles and Space Division a wonderful place to live and work. Located in Sunnyvale and Palo Alto, California, on the beautiful San Francisco Peninsula, Lockheed is Systems Manager for such programs as the DISCOVERER and MIDAS satellites and the POLARIS FBM. These, together with research and development projects in all disciplines, make possible a wide diversity of positions for creative engineers and scientists in their chosen fields.

Why not investigate future possibilities at Lockheed? Write Research and Development Staff, Dept. M-14 G, 962 West El Camino Real, Sunnyvale, Calif. U.S. citizenship or existing Department of Defense industrial security clearance required.

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## Trend of Affairs

(Concluded from page 40)

### Alumni Council Meeting

AT ITS January meeting in the M.I.T. Faculty Club, the Alumni Council learned that Secretary Donald P. Severance, '38, has been assigned to essentially full-time work as a member of the staff of the Second Century Fund. Frederick G. Lehmann, '51, Assistant Secretary, will take over much of the work for the Association which Mr. Severance has done in the past.

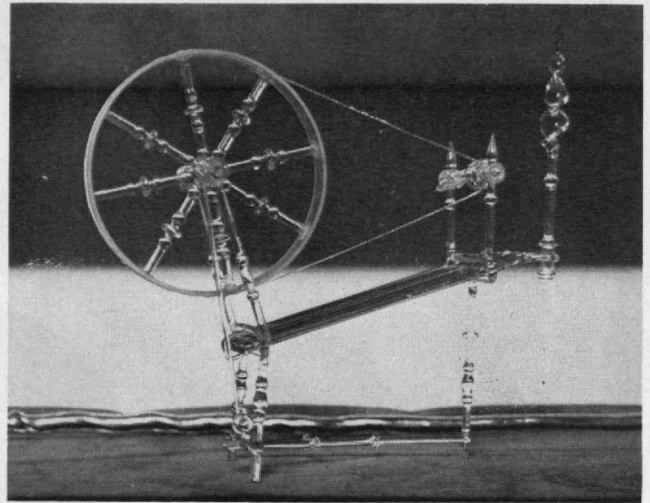
Reports to the Council showed that 9,300 Alumni had contributed to the Alumni Fund prior to this meeting, and 6,717 advanced orders had been received for the new directory of M.I.T. Alumni to be published this spring. (Details about the new directory are given in the advertisement on page 52.)

Speakers at this meeting were John I. Mattill, Director of Publications, and David G. Hoag, '46, Assistant Director of the M.I.T. Instrumentation Laboratory. Mr. Mattill showed examples of M.I.T. publications and discussed design problems. Mr. Hoag showed pictures of the Polaris and told about the Instrumentation Laboratory's work on the guidance system for this missile and the nuclear submarines which are being armed with it.

President Clarence L. A. Wynd, '27, presided, and D. Reid Weedon, Jr., '41, announced the Association's plans for the observance of M.I.T.'s Centennial. Members and guests present totaled 195.

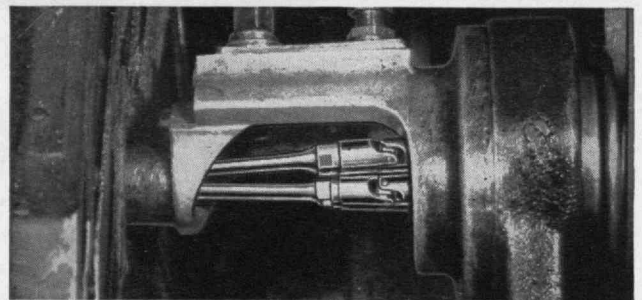
## The Glass Spinning Wheel

THE CASES in the corridors at M.I.T. contain a vast assortment of things, but few are as eye-catching as a glass spinning wheel on the third floor of Building 2. It was produced by Henry Wayringer, who blew glass for the chemists for many years. Born in Austria, he traveled all over Europe to master his trade. In this country he made ultraviolet-ray lamps for General Electric, and fashioned the first quartz neon lamp used as an airplane beacon, before coming to M.I.T. Now 86, Mr. Wayringer lives in Florida, but his work is still on display.



The Chemistry Department's little glass spinning wheel.

## Solving a breakage problem AT CLOSE QUARTERS



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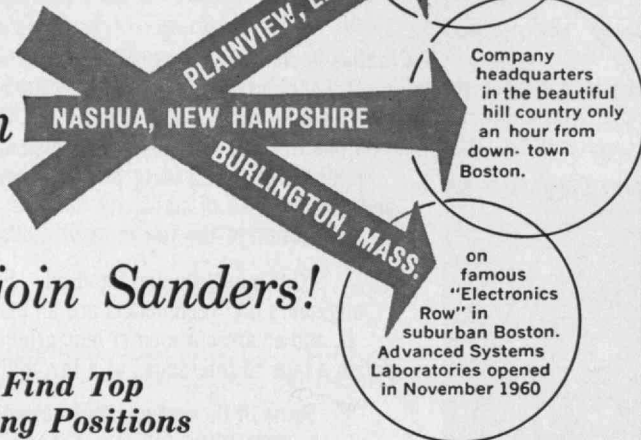


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## Individuals Noteworthy

(Continued from page 8)

### Hazen's New Post

HAROLD L. HAZEN, '24, Dean of the Graduate School, left M.I.T. in January to become interim president of Robert College in Istanbul, Turkey. He will be on leave of absence for the rest of this academic year, to replace Duncan S. Ballantine, a former member of the M.I.T. Faculty, who has resigned from the presidency of Robert College because of ill health. John T. Norton, '18, Professor of Metallurgy, is Acting Dean of the Graduate School in Dr. Hazen's absence.

Robert College is a growing institution which occupies a spectacular site overlooking the Bosphorus. Founded in 1865, it is the oldest American college abroad, and has many American and European scholars on its faculty. Students are admitted irrespective of race or religion, intellectual independence and self-reliance are encouraged, and instruction is offered in engineering, science, languages, and business.

### Alumni Day Committees

THE FOLLOWING committees to plan the 1961 Alumni Day at M.I.T. have been named by the Association's Executive Committee:

**Registration**—Wolcott A. Hokanson, G. Edward Nealand, '32, and Robert E. Hewes, '43.

**Symposium**—Edward O. Vetter, '42, Morris Cohen, '33, Randolph Antonsen, '35, Jay Zeamer, Jr., '40, James O. McDonough, '43, and Donald A. Hurter, '46.

**Luncheon**—David P. Flood, '45, William H. Carlisle, Jr., '28, Fisher Hills, '29, Philip A. Stoddard, '40, Paul Wing, Jr., '34, and Edwin H. Tebbetts, '46.

**Banquet and Evening Entertainment**—John L. Danforth, '40, Edward R. Marden, '41, Gerald V. Quinnan, '45, Lloyd D. Brace, Jr., '56, Miles P. Cowen, William Morrison, and Mrs. John W. Chamberlain.

### Epoxy Firm Formed

TWO MEN who met at M.I.T. as graduate students have formed a new firm at 238 Main Street in Cambridge, to formulate epoxy resins. Arthur P. Alexander, '58, and Charles F. Langenhagen, Jr., '58,

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call their firm Allaco Products, and have developed an epoxy resin that cures in one minute at room temperature. Epoxies are being used now to duplicate foundry patterns and can replace soldering, spot welding, and brazing in some manufacturing processes.

### Visiting Architects

Two of the world's most creative designers, Pier Luigi Nervi and Sven Markelius, will be visiting professors of architecture at M.I.T. this spring.

Professor Nervi, who is nearly 70, is noted for his distinctive work with reinforced concrete. He built the two Sports Palaces in Rome that were used for the Olympics last year and the Turin Exhibition Hall, and he supplied the structural engineering design for the UNESCO building in Paris. Since 1932 he has been co-director of the firm of Nervi and Bartoli in Rome, and since 1947 he has been professor of structural design at the University of Rome. While at M.I.T. he will give a public lecture in Italian, which will be translated by Professor Mario Salvadori of the Department of Civil Engineering at Columbia University.

Professor Markelius, who is 72, built the Swedish Pavilion for the New York World's Fair and served as a consultant in the design of the United Nations building. He is especially noted for his work as a city planner, having been director of the central planning office of the City of Stockholm while the city and its suburbs were being developed in ways that attracted world-wide attention. Professor Markelius will be at the Institute for two months and will work with a small group of graduate students on plans for a theater suitable for both traditional and new kinds of stagecraft.

### Exhibit Planner

ONE of the attractions of Centennial Week at M.I.T. in April will be an architectural exhibit sponsored by the Department of Architecture and City Planning.

Professor Carl W. Condit of Northwestern University has helped with this project. Professor Condit is the author of *The Rise of the American Skyscraper* and *American Building Art in the 19th Century*.

(Concluded on page 46)

# ENGINEERS METALLURGISTS PHYSICISTS



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## Individuals Noteworthy

(Concluded from page 45)

### Psychology Professor

THE M.I.T. psychology program (see page 27, is headed by Professor Hans-Lukas Teuber, an eminent student of the brain and behavior who since 1948 has been head of the Psychophysiological Laboratory at the New York University-Bellevue Medical Center.

Born in Berlin in 1916, Professor Teuber was educated at the French College there and the University of Basel. He received his doctorate from Harvard and was formerly a research psychologist for the Cabot Foundation in Cambridge. His research has dealt with social psychology, perception, and the neural bases of behavior.

He is chairman of the Advisory Committee on Psychophysiology for the Office of the Surgeon General, Department of the Army; and a member of the Mental Health Study Section of the National Institutes of Health and, the International Brain Research Organization of the World Health Organization.



**GUESTS of President Lee DuBridge of Caltech at the recent dedication of a new 12,000,000-volt tandem accelerator included (in the usual order) Rear Admiral Rawson Bennett, 2d, James R. Killian, Jr., '26, of M.I.T., and Alfred P. Sloan, Jr., '95, President of the Sloan Foundation.**

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## Books

(Concluded from page 26)

**THE UPS AND DOWNS OF COMMON STOCKS**, by George A. Cowee, '11; Vantage Press (\$3). Reviewed by Donald H. Hensick, '61 Sloan Fellow at M.I.T.

IF YOU are one of those who knows something about the stock market but doesn't classify himself as expert, here is a volume that you may enjoy. Mr. Cowee's "average" investor has not yet formulated his own investment philosophy, but neither is he a novice in the area.

In a series of 31 short chapters—some less than a page—the author puts you down in the middle of Wall Street and runs you through a short course in finance and market manipulation calculated to broaden your base and lead you in the direction of the wary investor. In this effort he succeeds, admirably. You may not agree with Mr. Cowee in the direction he would lead you; you may shake your head at some of his maxims; you may disagree with some of his economics; but unquestionably you will agree that if you were able to follow his advice to the letter, you would no doubt be a successful investor.

*Ups and Downs* is almost equally divided between a series of rudimentary chapters on what Wall Street is, investment versus speculation, and some more advanced commentary on investment companies and factors affecting the market such as cycles, ratios, and demand and supply leverage. In the final chapter the author gives you a glimpse of the next major bear market, and what to do to avoid it is developed in the final pages of "Maxims for the Investor." In these latter pages you may find the key to Mr. Cowee's advice which he sums up in a series of definite rules culminating in the thought that successful investing requires infinite patience.

*Ups and Downs* will prove thought provoking to many, overly cautious to some, and possibly a bit irritating to a few. If you read it and find it in the latter vein you can always give it to your wife who you know would agree with its cautious approach to investing.

## Technical Books

NEW, specialized books likely to be of especial interest to M.I.T. Alumni include:

*The Federal Government and Higher Education* (The American Assembly, Columbia University), contains a section on "Federal Sponsorship of University Research," by Vice-president James McCormack, '37, and Vincent A. Fulmer, '53, of M.I.T. (Prentice-Hall, Inc., \$1.95).

*Lectures on Communication System Theory*, edited by Elie J. Baghdady, '54, of the M.I.T. Department of Electrical Engineering, contains contributions by Donald G. Brennan, '55, Wilbur B. Davenport, Jr., '43, Peter Elias, '44, Robert M. Fano, '41, Paul E. Green, Jr., '53, Thomas Kailath, '59, Robert H. Kingston, '47, Robert M. Lerner, '59, Walter E. Morrow, Jr., '49, Robert P. Rafuse, '57, William L. Root, '43, William M. Siebert, '46, and John M. Wozencraft, '51 (McGraw-Hill Book Company, \$12.50).

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**Education:** Siena College,  
B.S. in Economics, '48

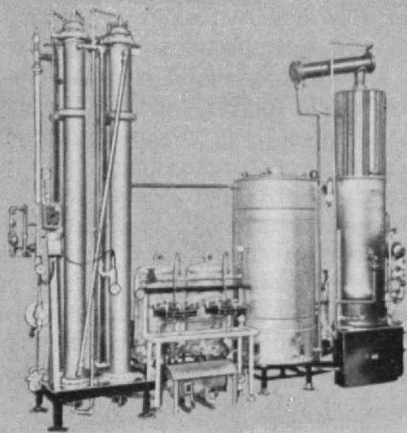
**Employment Record:** Joined  
Nylic in '57. Member, Star  
Club, '58, '59, '60.  
Binghamton office "Man of  
the Year" award, '59, '60.

**Previous Employment:** Sales-  
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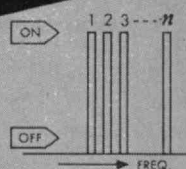
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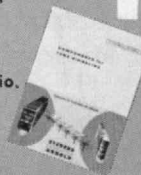
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## **Psychology's New Status at M.I.T.**

(Concluded from page 28)

psychology's first "engineering" achievement—the assessment of the I.Q.

William James at Harvard speculated daringly and searchingly on the complex problems of perception and thought. And in Vienna, Sigmund Freud collected a kind of data that no one ever had collected before—for nearly 40 years, nine or ten hours a day, he listened to people who were trying to tell him everything that passed through their minds, however embarrassing or ignoble or infantile it might be.

These multiple origins in physiology, philosophy, medicine, and education marked out for psychology a vast area of inquiry.

### **A Sign of Maturity**

Today psychology is, after physics, the second most rapidly growing science in the United States. Both the National Science Foundation and the National Institute of Mental Health support psychological research.

The world's need for a science of behavior is so great that this alone might account for the increasing number of able students and quantities of research money. In fact, however, there is a little more than this need: The line of cumulative knowledge about behavior has begun, very slowly, to move. If this movement still is glacierlike in its imperceptibility over short time spans, it is probably also glacierlike in its inevitability.

One sign of maturity is that psychologists today are less concerned about whether they are or are not "scientists"; they are intent on solving problems. Science, after all, is what Wittgenstein called a family concept; the various sciences resemble one another in this or that feature, but it is difficult to find any feature common to them all. They do not all rely on experiments, they do not all use mathematics, and they do not all have a structure of deductive theory.

It is clear now that psychology in one or another of its divisions will resemble most existent sciences and that it will in some respects expand the conception of science. For certain topics, sophisticated mathematical models are now used; e.g., in signal detection and decision processes. For certain topics, the rule-of-one-variable experimental design is possible; e.g., in treatment of psychosis with drugs. For certain topics, naturalistic observation has yielded interesting results; e.g., in the study of animal behavior in its natural setting, and in the study of the development of logic, language, and concepts of number in children. In teaching psychology at M.I.T. we never raise the question whether psychology is or can be a science.

The pressing social need for psychology sometimes has harassed its serious students. Its research findings and theories are social forces as well as knowledge. Unquestionably, much premature psychological advice has been given about raising children, keeping employees contented, and maintaining peace of mind. The serious student of personality is demeaned by faddish vulgarizations of Freudianism and extravagant, unfounded claims for psychotherapy.

At M.I.T. psychology should be able to maintain the standards of evidence that prevail throughout the Institute and, at the same time, encourage the intellectual audacity that a young study needs.

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# M.I.T. Centennial Alumni Register

(To be published in April by the Alumni Association)

LISTING alphabetically—

**Over 52,600 living Alumni**  
(from Aaker, David A., '60, of Houston, Texas, to Zymelman, Manuel, '56, of Buenos Aires, Argentina)

**Over 14,550 deceased Alumni**  
(from Abare, Lawrence P., '30, to Zurwelle, Fred E., '20)

**419 present and former members of the Institute Corporation since 1862**  
(from Aldred, John E., to Zimmerman, Rufus E., '11)

**12,646 present and former members of the Institute Faculty and Staff**  
(from Aalto, Alvar H. H., Architecture, 1940-41 and 1945-51, to Zymelman, Manuel, '56, Center for International Studies, 1958-59)

**214 present and former officers and members of the Executive Committee of the Alumni Association since 1875**  
(from Aiken, Charles W., '91, to Ziegler, Percy R., '00)

PRODUCTION of a reference work such as this 11th edition of the REGISTER is an expensive undertaking. Nevertheless, in order to secure a wider distribution of the 1961 REGISTER—which lists 14 per cent more Alumni than the 10th edition of 1955—the Executive Committee of the Alumni Association has established a cash discount for *advance orders* accompanied by payment at \$7.50 per copy post-paid. Up to February 1, 1961, 6,798 copies had been ordered in advance.

Further advance orders at \$7.50 will be accepted *up to March 31, 1961*, after which date the post-publication price will be \$9.00 per copy.

H. E. LOBDELL '17  
D. P. SEVERANCE '38  
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# Club Notes

## Centennial Banquet Scheduled Next Month

MANY M.I.T. clubs will hold centennial meetings this spring, and there will be a President's reception and Alumni banquet at M.I.T. on Saturday evening, April 8, for Alumni and their wives. About 1600 are expected to attend this banquet.

## Northern Californians Will Hear Norman J. Padelford

The M.I.T. Club of Northern California is looking forward to a meeting on March 23 at which Professor Norman J. Padelford will give a talk tentatively titled "United States Strategy and the Changing United Nations." The meeting will be held at San Francisco's World Trade Club. This is a new and very nice club that has been opened in the World Trade Center and hence provides a tie-in with the theme of Professor Padelford's talk.

On January 27 a winter meeting was held at the United Airlines Maintenance Base at the San Francisco Airport. A tour was made of the maintenance facilities and William C. Mentzer '31, Vice-president in charge of Engineering of United Air Lines spoke to the group.

For reservations regarding the March meeting drop a note to Keatinge Keays '55, Secretary-Treasurer, 2239 40th Avenue, San Francisco 16, Calif.

## M.I.T. Alumni in Japan Welcome Visitors

It was a great pleasure for our Alumni members in Tokyo to meet Lt. Comdr. Willard F. Searle, Jr., '52, Chief Engineer of the USS Providence, on a recent visit to Japan. Lt. Comdr. Searle was good enough to write us in advance of the ship's arrival at Yokohama, and the writer was glad to arrange a sukiyaki party for him with Alumni in Tokyo on Saturday evening, December 3. In return he very kindly invited our members to the ship on Monday.

A visit from an alumnus of M.I.T. from abroad is always a delightful event to our members in Japan, and a short advance notice by a proposed visitor or a telephone call to either of the following will be very much appreciated: Mr. Yoshinori Chatani, M.I.T. Honorary Secretary in Tokyo, c/o Kishimoto Shoten, Ltd., Kishimoto Building, Marunouchi, Tokyo, Telephone 281-1021; or Dr. Shikao Ikehara, President, M.I.T. Association of Japan, c/o Tokyo Institute of Technology, No. 1, Ohokayama, Meguro-ku, Tokyo, Telephone 782-1111.—Yoshinori Chatani, '22, Honorary Secretary in Tokyo (address above).

## Life at M.I.T. Described At Rochester Meeting

About 90 Alumni, M.I.T. students, and high school seniors met for our annual Christmas luncheon. President Leo Cravitz, '44, directed the affair. Harry Essley, '36, Educational Counselor, had a number of his high school students attending, and they heard an excellent description of M.I.T. life in the five talks given by current M.I.T. students. Avery A. Ashdown, '24, concluded the program with his annual report on life at the Institute.

Three of our members have been in the local news. Ralph N. Geil, '34, was honored by the Girl Scouts for his major contribution to the completion of a new summer camp. Over the years, Ralph has contributed a great deal to our local Boy Scout and Girl Scout programs. Dr. Nisson A. Finkelstein, '49, has been elected Vice-president for Research at the Stromberg-Carlson Division of General Dynamics Corporation. We are sorry to report the death of Frank C. Taylor, '11. Mr. Taylor was retired Superintendent of Industrial Sales of the Rochester Gas and Electric Company, Inc.—John D. O'Brien, '51, Secretary, 250 Chelmsford Road, Rochester 18, N.Y.

## Unusual Treat Enjoyed By Philadelphia Club

On January 23d at the regular winter dinner meeting of the M.I.T. Club of Philadelphia, members and their wives and other guests had a rare opportunity to hear a firsthand report on the BMEWS (Ballistic Missiles Early Warning System) project, our first line of defense against enemy rockets. Speaker of the evening was Bill Pleasants, '33, who had just returned from Alaska where he is Manager of the BMEWS installation. Club members were also interested in hearing about life in our 49th state.—Herbert R. Moody, '41, Secretary, 3010 Tower Road, Huntington Valley, Pa.



**Bill Pleasants on location at  
BMEWS Alaska installation.**

## President Stratton Speaks In New Jersey

Dr. Julius A. Stratton, President of M.I.T., was the guest speaker at the winter meeting of the M.I.T. Club of Northern New Jersey, held on December 7 at the Hotel Suburban, East Orange. Because of the anticipated interest in Dr. Stratton's talk, an open invitation to the meeting was extended to wives of Alumni and parents of present students. Attendance was estimated in excess of 400 (considerably more than were expected), which was gratifying to the committee handling the publicity as well as a tribute to Dr. Stratton and M.I.T.

President Stratton's presentation dealt with the new "image" of the Institute. He discussed the recent accomplishments and the future goals and purposes of the Second Century Fund as related to Institute facilities, curricula, and students. With regard to facilities, Dr. Stratton mentioned that on December 5 a groundbreaking ceremony took place for a new Earth Science Center, to be a 20-story building. He pointed out that the Earth Science Center was an example of the trend away from the "classic" sharply defined departmental boundaries toward the "center" concept in which various departments share facilities and are drawn together by interest in a common group of problems. Dr. Stratton also spoke of the importance of character development of the student and its relation to good educational training.

After hearing President Stratton's presentation, one could not help being impressed with the dynamic changes being made at M.I.T. in the field of education, and also with the knowledge that M.I.T. is taking the lead in adjusting educational training to the needs of modern science and technology. This meeting was certainly one of the highlights of this year's schedule.

James J. Shyne, '43, was elected to fill the vacancy created on the Board of Governors by the resignation of Albert R. Shelby, '45.—Howard E. Milius, '38, Secretary, 9 Tuxedo Place, Cranford, N.J.; Philip E. Sperling, '52, Assistant Secretary, 43 Lewis Street, Cranford, N.J.

## Fairfield County Club Elects New Officers

The fall dinner meeting of the M.I.T. Club of Fairfield County (Conn.) was held at the Clam Box in Westport on November 30. The following officers were elected: Donald W. Waterman, '39, President; Clinton H. Springer, '45, Vice-president; C. Philip Epifano, '39, Treasurer; Arthur J. Weinberger, '41, Corresponding Secretary; Randall Goff, '51, Review Secretary.

Fred G. Lehmann, '51, of the Alumni Office described some of the recent M.I.T. publications. The principal speaker was Herbert M. Teager, '52, of the Electrical Engineering Department, who discussed the question "Can Machines Think?" Fifty-three Alumni attended the meeting.—Randall Goff, '51, Review Secretary, Goodhill Road, Weston, Conn.



## Washington Club Holds Christmas Luncheon

The M.I.T. Club of Washington held its fifth annual Christmas Luncheon at the Cosmos Club on December 29.

This year the committee sent notices to the Tech students' home addresses so that these men would receive them when they arrived home for the Christmas vacation. The invitations to high school students were sent to lists prepared by the Educational Counselors of men who had made final application for entrance in September 1961. Invitations also went to an abbreviated list of local Alumni.

The speaker for the event was Thomas K. Meloy, '17, President of Melpar, Inc., who discussed career opportunities for men with a Tech education. James Evans of the Class of 1963 spoke on undergraduate extra-curricular activities. The Alumni acted as hosts and an effort was made to mix Tech and high school students with Alumni for better exchange of ideas. Robert W. Blake, '41, chairman of the committee, reported the luncheon was attended by 32 high school students, 30 Tech students and 23 Alumni.—Gilbert H. Lewis, '51, Secretary, 9914 Grayson Avenue, Silver Springs, Md.

## Students and Alumni Gather In Denver

Colorado was the purview of vacationing Tech men over the Christmas holidays. Rocky Mountain Club members felt the need for some of that old M.I.T. vacation gaiety and inveigled the present students to join them for a holiday lunch at the Denver Athletic Club on December 29. Students Jon R. Allen, Climax, Colo.; Gary W. Bickel, Longmont; Charles R. Cavanaugh, Englewood; Charles W. Gamble, Littleton; Paul Gilmartin, Denver; Philip A. Graham, Colorado Springs; George M. Irwin, Colorado Springs; Jeffrey B. Morton, Pueblo; and Richard S. Naylor, Richard H. Winkler, and George L. Zimmerman, all of Denver, told about their present activities at the Institute.

Rocky Mountain M.I.T. Club members reciprocated by describing their current exploits—a dangerous business to say the least. Committing themselves were John Ayer, Jr., '36, Joseph S. Bowman, '41, Paul G. Kase, Jr., '44, Eldon N. Dunlap, '36, Rudolph H. Fox, '12, Frank M. Greene, '37, Robert B. Jacobs, '46, Robert U. King, '36, James H. Klein, '42, William R. Mattson, '13, Johnson Mossman, '50, Benjamin A. Oxnard, '25, Marshall D. Payn, '56, Andrew R. Pfeifferberger, '49, Ernest E. Polley, '15, Norton Polivnick, '41, Barnard S. Silver, '57, Joseph C. Twinem, '30, Roger W. Von Holdt, '52, Samuel W. J. Welch, '26, Allen I. Williams, Jr., '37, and Frank R. Cook, '32. At the conclusion of the luncheon everyone agreed that this "Christmas Chew" was number one as an annual club event.—Benjamin A. Oxnard, '25, Secretary, P. O. Box 5308 Terminal Annex, Denver 17, Colo.; Barnard S. Silver, '57, Assistant Secretary-Treasurer, 315 Clermont Street, Denver 20, Colo.



At Washington luncheon head table, left to right: Robert Wilson, '16, Thomas Meloy, '17, Robert Blake, '41, and James Evans, '63.

## Kansas City Club Host To Students and Fathers

Every year the Kansas City Club entertains the contingent of local students at M.I.T., along with their fathers. This year our gathering came on New Year's Eve. A fine luncheon was followed by a showing of the recent film giving highlights of the past, present and future of M.I.T. as she enters her second century. The scenes of life and activities at Tech were of particular interest, of course, to the fathers of our students and to the Alumni who haven't had the opportunity to return to Cambridge in recent years. Also, the significance of the Second Century Fund was underscored.

Our guests included nine students, all but one accompanied by their fathers. Another student, unable to attend himself, was represented by his father—a gratifying expression of interest in and identity with M.I.T. Seventeen Alumni acted as hosts.—Beverly J. Kirkwood, '49, Secretary, 4308 West 79th Street, Prairie Village, Kansas.

## Boston Stein Club Hears Abe Feder, Lighting Designer

At their January 19 meeting at the Faculty Club, M.I.T., the Boston Stein Club had the privilege of hearing Abe Feder, the country's foremost lighting designer, known for his lighting of over 200 Broadway productions, and many famous buildings including the White House, Lincoln Memorial, and United Nations Headquarters. He spoke on "The Education of the Visual Sense," illustrating his talk with slides and demonstrations. Members of the Institute of American Architects and the Illuminating Engineering Society were invited guests.

New officers announced in the fall include: Mayo Larkin, '42, President; Harold Fine, '30, First Vice-president; Arthur Miller, '34, Second Vice-president; Norman Gardner, '53, Secretary; Sydney Karofsky, '37, chairman of the Board of Governors.—Norman R. Gardner, '53, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

## H. E. Lobdell Meets With Mexico Club

On December 19 we enjoyed a New Year luncheon with H. E. Lobdell, '17, who was visiting in our land of sunshine and Aztecs. The following were all present to greet him: Alberto P. Gonzalez, '01; Commodore Penn L. Carroll, '17; Leonardo Siller, '28; Salvador Madero, '29; Camilo G. Sada, '32; Julio de la Fuente, '33; Rodolfo J. Gonzalez Garza, '34; Eliot Camarena, '44, Manuel R. Llaguno Farias, '46; Javier Sada Narro, '47; Rodolfo F. Barrera, '49; Raul Sada Rangel, '49; Armando Garza-Sada, '54; Jaime L. Llaguno Farias, '58; Juan F. Llaguno Farias, '60.—Eliot Camarena, '44, Secretary, Nylon de Mexico S/A, Monterrey, N. L. Mexico.

## March Birthdays

Ten Alumni will become 85 and 18 will celebrate 80th birthdays in March. Congratulations to these people who are listed below with dates of birth.

March, 1876—HOWARD L. BODWELL '98, on the 1st; FRED C. PLUMMER '98, on the 5th; LYMAN F. HEWINS '98, on the 6th; DUNCAN C. MCLEAN '99, on the 8th; KARL W. WATSON '98, on the 9th; FRED L. HAYDEN '98, on the 10th; WALTER S. LELAND '96, on the 13th; PAUL L. PRICE '00, on the 14th; JAMES DRISCOLL '02, on the 19th; and GEORGE K. NEWBURY '98, on the 28th.

March, 1881—HARRY D. G. BAXTER '10, on the 1st; EDMUND A. GARRETT '03, on the 5th; HEWITT CROSBY '03, and C. NELSON HARRUB '09, on the 7th; ALEXANDER H. VANKEUREN '07, on the 9th; THEODORE NELSON '04, on the 13th; HARRY S. KENDALL '03, on the 16th; CHARLES F. HUNTER '04, and ROBERT B. SOSMAN '04, on the 17th; WILLIAM O. EDDY '03, and WILLIAM A. YOUNG, '07, on the 18th; ELIOT W. NILES '04, on the 19th; GEORGE G. HALL '04, on the 25th; JAMES L. TAYLOR, Jr. '02, on the 27th; JOHN E. OTTERSON '09, and DANIEL A. SMITH '03, on the 29th; and ANTHONY B. ARNOLD '07, and LAURENCE U. FULLER '05, on the 31st.

# Sloan Fellows

Dean Howard W. Johnson met with Sloan Fellows in the San Francisco area on a recent visit to the West Coast. Those attending the meeting, including Gaynor Langsdorf who brought the group together, were: Robert H. Ausfahl, '50, William L. Clark, '40, George C. Gester, Jr., '54, Wayne L. Horvitz, '53, Walter D. Howell, '41, Merwin Miller, '36, William T. Putnam, '40, Dixon E. Wansbury, '55.

Since the last report, word has been received of new assignments for members of the Sloan Alumni group: **G. Lowell O'Daniel**, '53, has been appointed by Lever Bros. Co. to a newly created position of assistant vice president—production. . . . **Robert C. Sprague, Jr.**, '58, has been named senior vice president—Industrial Relations of Sprague Electric

Company. . . . **Wayne Burt**, '58, is the new general superintendent of smelting and refining operations for the Utah Copper Division of Kennecott Copper Corporation. . . . **Victor J. Lombardi**, '58, is assistant to the President, Scott & Williams, Inc. . . . **Earl F. Hogan**, '58, has been named superintendent, Washington and Old Dominion Railroad (subsidiary of C&O Railway). . . . **James F. Walsh**, '56, is administrator, Project Operations—Major Defense Systems, RCA. . . . **John D. Debbink**, '56, is the new general superintendent—production for Chevrolet's Buffalo Division. . . . Other shifts of assignment include: **Robert H. Ausfahl**, '50, to be assistant manager, Motor Transport Department, Standard Oil Co. of California; **Raymond F. Winch**, '59, is project analyst in Sun Oil Company's Commercial Development Division; **George W. Allen**, '59, to planning manager, IBM—Endicott; **William E. Snyder**, '58, to sales manager—Industrial Products, Baldwin-Ehret-Hill Inc.; **William E. Rudloff**, '59, is manager of manufacturing, Heat Transfer Apparatus, Westinghouse Electric Corporation.—**John M. Wynne**, Room 52-455, M.I.T., Cambridge.

## New York Club Tells Future Plans

Recent weeks have found the club's quarters very busy, especially the dining area which has been filled almost every day during the noon hours. A representative list from the register of hundreds of Alumni who have been in recently includes Dale N. Dukes, '58, from Boston; Jerome L. Abel and Roger T. Kiley, both 1960 graduates; Lt. Col. William G. Kussmaul, Jr., '41, from Quantico, Va.; Vernon E. Whitman, '22, of Rochester, and Alfred Katz, '13. Henry B. (Chick) Kane, '24, Director of the Alumni Fund, joined his classmates at their monthly class luncheon during his visit to New York from Cambridge.

The entire membership and Alumni in the area join the Class of '24 in extending sympathy to the family of Ed Winger on his tragic death in the New York mid-air collision last December. Ed, who was President of the Nicholson Company, was often seen at the club. The loss of his cheerful interest and stimulation is felt by many of us.

Future plans of the club were outlined in detail in a compact 31-page report submitted by Ed Edgar, '35, to the Board of Directors. Ed has been appointed chairman of the Long Range Planning Committee, a new committee installed this year by Ed Goodridge, '33, President. Among those active on the committee are Gordon Powers, '34, and Dave Broudy, '22. The purpose of the committee, according to Ed Edgar, is to "provide for a solid pattern of growth in future years." Broad plans include the use of the M.I.T. Club of New York by the Institute, younger Alumni and potential students, future club facilities, and activities such as a lecture series. Guido M. (Gabby) Garbarino, '33, one very active member who has not been

seen around the club very much recently, returned from Moscow just before Christmas and managed to give some good ideas regarding future lectures by Institute professors before leaving for Nigeria.

The Club Membership Directory was recently distributed to all members. For information about it, write to the M.I.T. Club of New York, Hotel Biltmore, 43d Street and Madison Avenue, New York 17, N. Y., in care of the Executive Secretary, Miss Maxine Gilliland.

On January 26, the Long Island Section enjoyed a tour of the Republic Aviation plant.—James M. Margolis, '52, Secretary, 5 Fenton Street, Rye, N.Y.

## Alabama Club Hears Robert C. Wood

Robert C. Wood, Associate Professor of Political Science, was guest speaker at the fall dinner meeting of the M.I.T. Club of Alabama, held at "The Club" in Birmingham. Following cocktails and dinner, Dr. Wood talked informally to the group about portions of the wide range of activities of the Department of Political Science and Economics. The older Alumni present were especially interested in hearing about courses which were not available during their years at the Institute. Later, Dr. Wood answered questions from those present.

During the business session, reports were made by the chairman of the Educational Council on its activities at various high schools in the state. Each undergraduate and graduate student from Alabama now in attendance at the Institute was mentioned. Announcement was made of the recent marriage of one of the counselors, Edwin B. Miller, Jr., '50, and the death of another counselor, John Wood, '34, of Decatur, Ala.

Douglas F. Elliott, '24, reporting for

## Deceased

WILLIAM P. FLINT '90, Dec. 11  
CHARLES W. HAPGOOD '96, Oct. 20\*  
HENRIETTA L. GRAVES '99, Nov. 27\*  
E. EVERETT PIERCE '99, Dec. 19\*  
WARREN W. SANDERS '00, Jan. 6\*  
FRANK A. ROBBINS '02, Jan. 2\*  
HAROLD H. DILLON '03, Feb. 13, 1960\*  
ANNIE M. MULCAHY '03, Sept. 3, 1959\*  
LUCY M. STEVENSON '03, Dec. 4\*  
WILLIAM GREEN '05, Dec. 26\*  
FREDERICK R. BATCHELDER '06, Jan. 1  
CHARLES R. BURLEIGH '06, Nov. 23\*  
CHARLES E. HAMILTON '06, Nov. 14\*  
CLARENCE EDWARD TUCKER '06, Nov. 24\*  
CLARENCE D. HOWE '07, Dec. 31\*  
CHARLES C. BENTON '08, Oct. 25\*  
RAE W. DAVIS '08, Oct. 20\*  
THOMAS W. ORR '08, in 1960  
HELEN LONGYEAR PAUL '09, Oct. 30\*  
SAMUEL KOSTICK '10, Sept. 18\*  
STERLING H. POOL '10, Oct. 30\*  
HAROLD M. DAVIS '11, Dec. 7\*  
FRANK C. TAYLOR '11, Nov. 29\*  
IRWIN S. JOSEPH '12, Oct. 7\*  
STRATHY R. MACKELLAR '12, Oct.\*  
WILLIAM A. BRYANT '13, Dec. 28\*  
GEORGE H. CLARK '13, Dec. 30\*  
HENRY G. HAUCK '13, Nov. 28\*  
THOMAS W. PINNOCK '13, Dec. 11\*  
HAROLD C. BENJAMIN '14, Dec. 15\*  
B. HOWARD JACKSON '15, Aug. 26, 1959\*  
CHARLES W. FRY '16, Nov. 23  
JOHN M. HOOD '16, no date given  
W. MACK ANGAS '17, Dec. 12\*  
RALPH J. BUSHEE '18, Dec. 8  
LAWRENCE D. CHELLIS '21, Dec. 7\*  
JOHN S. KERNACHAN '22, Sept. 10, 1959  
CHARLES G. RUDDERHAM '22, Jan. 7\*  
ARCH P. WILKS '22, Dec. 4\*  
TYSON NIMICK '24, Dec. 20\*  
ROBERT S. GENTLE '24, March, 1959  
EDGAR WININGER '24, Dec. 16  
HOWARD E. HANSON '28, Dec. 11\*  
DAVID T. H. SHAW '31, Aug. 17  
CHARLES B. HOLLAND '37, Dec. 24\*  
GARRY C. MYERS, JR. 2-'44, Dec. 16\*  
JOHN C. ADAMS, JR. '48, Aug. 1  
FRANK E. STEVENS '51, Aug. 24

\*Further information in Class Notes

the nominating committee, presented the name of George J. Fertig, '24, for continuance as president of the club. Theodore F. Randolph, '44, was named secretary to succeed Nelson Smith, '35. Expressions of appreciation were made for the services of the retiring secretary. An executive committee was named, consisting of Nelson Smith, '35, chairman; Douglas F. Elliott, '24, and Charles B. Gamble, Jr., '34.

Present were: Harold L. Abroms, '48; H. W. Ahrenholz, '39; Andrew E. Burnett, '41; James R. Cudworth, '21; Douglas F. Elliott, '24; George J. Fertig, '24; Charles B. Gamble, Jr., '34; William H. Hassinger, Jr., '27; Laurence D. Luey, '29; Kenneth M. McDonald, '24; Edwin B. Miller, '50; Theodore F. Randolph, '44; Joseph G. Reid, '08; Raymond E. Strickland, Jr., '38; Nelson Smith, '35; Lavette C. Teague, Jr., '57; and David Thurlow, '41.—Theodore F. Randolph, Secretary, P. O. Drawer 75, Birmingham 1, Ala.



# Class Notes

'95

Last December 1 your two secretaries had a wildeyed pipe dream that our '95 Eighty Plus Club needed some method whereby we could enjoy being together these winter days or evenings before the cheerful old-fashioned woodburning fire, swapping yarns and personal experiences as was always interesting before the automobile era scattered local interests to the winds. Our list of 19 members showed we were located principally on the Eastern Coast where there are 16, and two on the Western Coast, both in California. They are **Robert Farquhar** in Berkeley, and **Dorville Libby** in Richmond. In the middle states is **George Bixby**, in Columbus, Ohio, near enough to call him an East Coaster. In these days when the auto has replaced walking and the plane has replaced the auto for time and space, and one can have breakfast in Boston and lunch in San Francisco, our members are satisfied if they can be without pain, walk a bit about the grounds, and down to the Post Office and shops when the weather is right.

On December 1 last, we decided to have the first number of the "Ninety-Five M.I.T. Eighty Plus Club Bulletin" go into the mail with our best wishes for Christmas and the New Year to each member of the club. Like many of the best laid plans of mice and men, ours came to naught. December 10 we had the worst blizzard in New England for years and by January 1, the remains of ice and snow made walking often dangerous in spots for all over eighty. This with other circumstances over which we had no control delayed mailing our bulletin until the last week in January. We hope you have received your copy so you know already about it. Six of our members do not have The Review so they may not read these notes. If so, we hope our bulletin will bring us together.—**A. D. Fuller**, Assistant Secretary, 120 Tremont St., Boston, Mass.; **Luther K. Yoder**, Secretary, 69 Pleasant St., Ayer, Mass.

'96

The class extends its sympathy to **Myron Pierce**, whose wife **Blanche** died in Wellesley on December 10. They had been married for 53 years. Last summer they spent in the White Mountains and last winter in Florida. Their lovely Christmas card was selected by **Blanche** and it had both names on it. . . . **Charles Moat** is still in Burlington, Vt., and doing about as well as are other octogenarians, but he does not feel like doing very much. He reports through his wife **Helen**. Recalling that **Perley Under-**

**hill** was Charles' associate at reunions, we sent him a clipping which pictured **Perley's** grandson and bride.

**Samuel Smetters** recently went to Ottumwa, Iowa, to the funeral of a classmate of the high school class of '89 and now he is the only one left of the class. He will be 90 next September. In writing a history of his family he finds that he had two grandfathers and three granduncles in the war of 1812. One of them in the Battle of New Orleans wrote that "it took 30 soldiers to keep a rifle to his shoulder and that no English soldier got two paces nearer than the post in his section."

**Albert Ruckgaber** writes from Staten Island that he has recovered from a heart attack this past year. He trusts that classmates are well and enjoying good health in the coming year despite their 86 years. . . . **Henry Hedge** was a mere 85 January 13. Aside from a lame back and dependence on aid in walking he appeared to be as keen as ever at the January conference of our secretaries.

Mrs. **Clara Hapgood Mead** responded to a note of sympathy in the death of her uncle **Charles W. Hapgood** on the 20th of October. She said that "soon after his retirement he bought a 75-acre estate in Fitzwilliam, N. H., where he became engrossed in gardening, putting in nearly six hours' work a day. The winter months were spent in Florida at Palm Beach, where he also had a home. He lived a very quiet but active life until a few weeks before his death."

**Walter Mayo** writes from Dover Foxcroft, Maine: "Your welcome card came as a great surprise. I have lost touch of most of my Tech classmates and now I can hardly see to write this note. [Mayo was left tackle on '96 football team when we beat the freshmen.] I still like to watch a good game and can get all the thrills of good action. I was in the woolen business until 1915, then seeing the handwriting on the wall sold out and went to the Texas border as Major in the state militia and continued in A.E.F. during W.W.I. Then I was in water works and now am just trying to make my friends happy. Like to see you some time. When?" . . . From Thomaston, Maine, there came a card from **Richard O. Elliot**, Senior Vice-President of First National Bank of Portland. His 87 years would entitle him to make some complaint but there is none, nor any mention of retirement.

The M.I.T. Boston Luncheon Club holds its meetings at the Union Oyster House. . . . The M.I.T. Club of Mexico City will hold its Annual Fiesta on March 9, 10 and 11.—**James M. Driscoll**, Secretary, 129 Walnut Street, Brookline, Mass.; **Henry R. Hedge**, Assistant Secretary, 105 Rockwood Street, Brookline.

'97

Although our 65th Anniversary is over a year from now, we should be thinking of how we should observe it. Give us your ideas soon so that plans can be made well ahead. And by all means plan

to be at the party. . . . We have received word that the address of **Mrs. William C. Ewing** is Patrick Henry Hospital, Denbigh, Va.—**Augustus C. Lamb**, Secretary, 61 Hillcrest Place, Amherst, Mass.

'99

After 98 years of an active life our oldest classmate, **Miss Henrietta Graves** died November 27, 1960 at Gardiner, Maine. **Miss Graves** was born August 31, 1862 at Malden, Mass., daughter of **Philip Henry** and **Ellen Margaret Lenfest Graves**. After graduating from Framingham, Mass., Normal School she attended M.I.T., Marine Biological Laboratory at Woods Hole, Mass., and Harvard for two years each. She was a teacher of physiology and hygiene five years at the Framingham Normal School, three at Taconi School for Girls, Lakeville, Conn., one year at Howard Seminary, West Bridgewater, Mass., several years of private tutoring, and then 19 years at Hampton Institute, Hampton, Va., until 1923. On retirement she returned to Dresden, Maine, where she had lived eight years as a small child, and from 1951 to 1958 she stayed in Richmond, Maine. **Miss Graves** was known throughout the area for her annual vegetable garden. She is survived by a nephew, **Charles Graves** of Brockton.

**E. Everett Pierce**, XIII, died December 19, 1960 in St. Petersburg, Fla. After graduation he went with **Bean and Trask** to Newport News, then to the N.Y.S. Co., in Camden, then **Wm. Cramp & Sons**, Philadelphia, and in 1930 with **Theodore Ferris Co.**, New York. From 1934 until his retirement he helped **Pete Newell** in the building of the celebrated fleet at the Bath Iron Works. . . . **Edgar Trask** was at **Cramps** 1913-1924, at **Theodore Ferris** in New York on a super-liner for the U.S. Lines, and later with **Gibbs and Cox** he did a very interesting study of stability on the "United States." In 1947 he became an associate member of **Theodore Ferris & Sons** until he retired "actively" in 1952 and then part time until 1956. Since then he has used his skill in building models of **McKay's** clipper ship "Sovereign of the Seas." . . . **Norman** and **Mrs. Seavey** so enjoyed their trip to South America they took an automobile trip last summer through **Brittany** and **Normandy**. . . . **Miss Harriet Faxon** sent her congratulations to '99. Her beautiful script at 91 years of age is an example to the careless scribblers of today. She was a special student at M.I.T. while she was at the Boston Museum of Fine Arts.—**Burt R. Rickards**, Secretary, 349 West Emerson St., Melrose, Mass.; **Percy W. Witherell**, Assistant Secretary, 84 Prince St., Jamaica Plain, Mass.

'00

**Charlie Smith** writes as follows: "I seem to keep busy making speeches. Last season I prepared and presented a paper on the Long Island Sound Steamship Lines

(1815 to 1945) to the New Haven Colony Historical Society and have had several calls to repeat it before other organizations. Last month I spoke to the Connecticut Technical Council on the national railroad picture and expect several calls for encores. My 'rheumatiz' is no worse. In fact, at times, it seems much better. The Christmas and New Years parties and egg-nogs were strenuous but I passed with all A's."

Your class secretary attended the funeral services for **Warren W. Sanders** who died in Melrose, Mass., January 6, 1961. Born in Gardner, Mass., he graduated from M.I.T., Course V, in 1900. He became associated with the Goodyear Tire and Rubber Company and the Seiberling Rubber Company of Akron, Ohio, and Murray Rubber Company of Trenton, N. J. He then joined the Boston Woven Hose and Rubber Company which he served from 1928 until his retirement in 1959. He became widely known as a chemical engineer in the rubber manufacturing industry and was a member of the Technical Committee of the Rubber Manufacturers Association. He has been a resident of Melrose since 1929. Surviving are his wife, Alta (Morgan) Sanders; two daughters, Mrs. Frederick P. Warne of Rye, N. Y., and Mrs. William G. Banfield, Jr., of Rockville, Md.; and five grandchildren.—**Elbert G. Allen**, Secretary, 11 Richfield Road, West Newton 65, Mass.

# '01

When you read these notes you will have received the Class Letter. They are written, however, early in January and I will include two clippings which I have recently received.

From **Anthony Peters**, I, in Westwood, Mass.: "Who says life in the country is dull and tame! The enclosed clipping from our local paper will illustrate for you one of the high lights of the 'good old days.' 'Westwood members will join their Dedham neighbors at the Dedham Senior High School Wednesday evening December 7, when 'The Society in Dedham for Apprehending Horse Thieves' will hold its 150th annual banquet.'" . . . I have received clippings telling of the honor conferred on one of our members, **Arthur Hayden**, I, of St. Michaels, Md. The clipping follows: "Dr. Arthur G. Hayden of St. Michaels has been elected a fellow of the New York Academy of Sciences, it was announced at its December 1st meeting. The fellowship is an honor conferred on a limited number of members who, in the estimation of the Academy, have done outstanding work toward the advancement of science. Dr. Hayden developed the design and construction of the rigid frame bridge which the Centennial issue of the Transactions of the American Society of Civil Engineers characterized as the first entirely new form of structure introduced in America in centuries. Tests were conducted by Columbia University in an effort to crush a model bridge built

according to Dr. Hayden's specifications, but the model resisted all efforts. A book written by Dr. Hayden 'The Rigid Frame Bridge,' has been translated into a number of foreign languages and gone through a number of printings." **Phil Moore**, who sent me one of the clippings, writes: "Arthur has just returned home from a trip to Panama, Costa Rica, and Guatamala. He is fine and is interested in all that goes on. Perhaps you recall that he has been an enthusiastic canoe paddler and has been in almost all the estuaries and creeks in this part of the Eastern Shore. Just loads the canoe on his car roof, drives to where he wants to start his trip and comes down the stream with it. He is also a great swimmer. Prefers to do that two or three miles off shore. This has resulted in an occasional rescue attempt which he does not need. Once he got a bad bump on the head from a Coast Guard Sea Plane some busy-body had sent out to bring him home. He has a good command of language and used it on the crew." Thank you, Phil, for this additional information.

You will note that the Class Letter gives the general plan and highlights of the reunion. The committee will send out a questionnaire next month and it is very important that replies to this come in as soon as possible so that the proper arrangements may be made. I cannot find the message that **Ed Davis** sent for these notes. He made several notes at the bottom of my letters and I am not sure of the wording. But I can give you the gist of what he said. His message was that we must make a special effort to come to the reunion this year as it will probably be the last real reunion that we will have.—**Theodore H. Taft**, Secretary, Box 124, Jaffrey, N.H.

# '02

Through a newspaper clipping received from Tillson, '06, it is learned that **Frank A. Robbins, Jr.**, died in Harrisburg, Pa., on January 2 after a long illness. Robbins was with the Bethlehem Steel Company for 44 years and at the time of his retirement in 1946 was general manager of their Steelton plant. He took a very active interest in the civic affairs of the state and of Harrisburg where he made his home. He served from 1947 to 1951 as State Secretary of Public Assistance of Pennsylvania. He was especially interested in the Harrisburg Hospital and served it in various capacities from 1918 until the time of his death. He had served as president and vice-president of the Board of Managers and as chairman of the Medical, School of Nursing, Building, and Completion Fund Steering Committees and was made emeritus manager in 1958. He was an honorary member of the Engineering Society of Pennsylvania. He is survived by his wife, Mrs. Lida Motter Robbins; three daughters, Mrs. Marjorie Fenner, Novato, Calif.; Mrs. Elizabeth R. Murrie, Cincinnati, Ohio; Mrs. Frances R. Holverstott, Bethlehem, Pa.; and seven grandchildren. He also left a sister and

two brothers, one of whom is Donald G. Robbins '07.—**Burton G. Philbrick**, Secretary, 18 Ocean Avenue, Salem, Mass.

# '03

It will be a source of some unpleasant surprise, especially to those of our classmates who were close to the following list of members, that these people are no longer reported among our remaining membership. . . . **Miss Susan L. Clarke** (Spec.) who was employed for many years with Messrs. Baring Brothers, London, England, is at least assumed among the departed. . . . **Harold H. Dillon**, VI, died February 13, 1960, at Santa Monica, Calif. . . . **Miss Annie M. Mulcahy** (Spec.) died on September 3, 1959, at her home in South Boston.

**Miss Lucy M. Stevenson**, VIII, of South Hadley Centre, a retired teacher, died December 4 in the Holyoke Hospital, following a short illness. She was 78 years old. Miss Stevenson was the daughter of the late Findlay and Emma (Perey) Stevenson and was born in Lowell, Mass., March 4, 1882. She attended the Lowell schools and graduated from M.I.T. in 1903. She was a member of the science department at the Brattleboro, Vt., High School from 1905 to 1911. She taught physics at Wellesley College from 1911 to 1916 when she came to South Hadley Centre. She was a member of the D.A.R. Surviving her are a sister, Miss Louisa S. Stevenson, with whom she lived; and three nephews, Robert F. Stevenson of Monson, John P. Stevenson of Lincoln, and William A. Stevenson of Marblehead. The funeral took place in Little Abbey Chapel at Mount Holyoke College and burial was in Lowell Cemetery.

**George A. Truelson**, IV, died December 6, 1958 at Somerville, Mass., where he lived most of his later life. He was active in his profession to the last and designed many prominent churches and buildings in New England.

Though the members of our class cannot be expected to assume the agility of our 50th celebration when such a bountiful number were present with their wives, yet this spring heralds the 100th year of M.I.T. history. What an opportunity is held forth for advance preparation for us to enjoy this Centennial Celebration and to renew old memories of Rogers and Mac Lacksen Store opposite Walker, where all our supplies were judiciously acquired.—**John J. A. Nolan**, Secretary, 13 Linden Avenue, Somerville, Mass.; **Augustus H. Eustis**, Treasurer, 131 State Street, Boston, Mass.

# '04

We have just one item of news this month. **Frank Davis** and wife have tired of the snow drifts of Michigan and about the time you read this they will have embarked on the S.S. Matsonia headed home from Hawaii. They started on their journey aboard the S.S. Lurline from Los



Angeles on Valentine's Day. This ought to be a nice trip, Frank, and we hope you both get enjoyment from it. . . . Perhaps you saw the post-retirement biographies of some of the M.I.T. emeriti in the December Review. We old has-beens meet for lunch once in the fall and once in the spring. The current chairman or "convenor" last spring was Les Hamilton, '14, and he tried to get each of us to write briefly of our retirement. The products of this effort were mimeographed and circulated among the emeriti. The Review editor published them after liberal use of the editorial pencil and they apparently made quite a hit with the alumni. Numerous former students have been stimulated to take pen in hand and write to old professors thus giving them much pleasure. There are at least three and perhaps more who were on the instructing staff in our student days who regularly attend the luncheon. They are Fuller, who taught Applied Mechanics, Sherrill, who taught chemistry, and Riley, who taught Mechanical Engineering.—**Carle R. Hayward**, Secretary, Room 35-304, M.I.T. **Eugene H. Russell**, Treasurer, 82 Devonshire Street, Boston.

'05

Possibly the most unusual event in my experience as Class Secretary was a two-page typewritten letter from **Louis J. Killion**, I, followed in a few days by a postscript (one full page) telling what he had forgotten in the previous letter. Unusual, because in spite of telephone calls, personal appeals and threats of scandal-exposure, Louis had been adamant for many years. The original letter gave in minute detail the story of his tenure with the Massachusetts Department of Public Works from March, 1950 to June 30, 1958. His specific job, "Structural Steel." Louis says, "Starting in 1950 I put in eight solid years on Structural Steel. When I started we had eleven men working on S. S. This number was constantly reduced so that when I left in 1958 I was handling all the S.S. alone. I live a very uneventful life with my older sister, but I put in from six to 10 hours a day on an idea that I have had in mind for some time. It keeps me out of mischief." The idea, Louis?

Christmas Greetings from classmates have brought in quite a bit of news. I am condensing these replies and giving you quotations, many from fellows we have not heard from in a long time.

**Hallet R. Robbins**, I, 2101 East Maryland Ave., Apt. 11-C, Phoenix 16, Ariz: "This past year has been an unusually eventful one for me, and since my not-so-good eyes make it difficult for me to write long individual letters, I am taking this means to keep you informed. I sold my cooperative apartment in Waikiki and surrendered possession on October 5 and left the same day for Los Angeles via United Air Lines. My reasons for selling were the growing congestion and overexploitation of Waikiki, coupled with the fact that my long record of exceptional good health seemed to be threat-

ened with impairment, and it did not appear advisable to continue living alone and keeping house for myself. . . . I had previously made arrangements to join the Pohai Nani Retirement Home at Kaneohe, to be built by the Pacific Homes Corporation, a non-profit organization sponsored by the Methodist Church, which sponsors some 80 similar homes on the mainland. However, there were various unexpected delays in getting Pohai Nani going, so I arranged to join Desert Crest, a similar home, at Phoenix, Arizona, where accommodations were immediately available, with the privilege of transferring to Pohai Nani later if I should desire to do so. En route to Phoenix, I stopped at La Jolla, Calif., to visit my niece and her family, Dr. and Mrs. John C. Carson, and their three lovely children. He is a staff doctor at the Scripps Clinic and Research Foundation, so I took advantage of the opportunity to have the most thorough physical examination I ever had. It was found that my shortness of breath was due to a very profound anemia, and the anemia was due to a cancer of the large intestine, similar to what President Eisenhower had. My journey to Phoenix was therefore interrupted, and I was hospitalized immediately and was operated on by Dr. Ivan Baronafsky, an eminent surgeon. He reported that the growth was malignant, but it had not spread and he was confident he got it all, and that I would have no further trouble from it. . . . To the surprise of all concerned, the alleged arthritis disappeared immediately and completely following the operation, and so far has shown no signs of recurrence. On November 28 I started for Phoenix, driving my own car, and arrived at Desert Crest at 2:30 P.M. Tuesday, Nov. 29. . . . At present there are about 65 members, all but six of them women, largely retired school teachers. The members appear congenial, those at my table particularly so. . . . Although I have the privilege of returning to Pohai Nani in Hawaii when it is ready for occupancy, probably in 1962, and although the climate of Oahu, even on the windward side where Pohai Nani, is located, is indisputably superior to that of Phoenix, it appears at this time unlikely that I shall return. The effort and expense would be considerable and I would like to stay closer to my only close relatives, my sister in Des Moines, Iowa, and my niece in La Jolla, Calif."

**Willard E. Simpson**, I, National Bank of Commerce Building, San Antonio 5, Texas: "I was sure sorry to have missed our class reunion this last summer, but Mary positively would not fly up, and I didn't have the time to go any other way. Probably she was absolutely right in not flying, judging by the recent news about air disasters.

"The only flying I am going to do is in Texas where it isn't so crowded. My main trips now are from here to El Paso and back, and they are just ideal. It is a two-hour flight in which you travel 500 miles and pass over no city of any kind, only little country villages and some irrigated farms that you

can see clearly from the air. If you have your binoculars along, you can see them working, and no matter what the weather is in San Antonio when we leave, it is all sunshine and brightness in El Paso. They tell me that it only rains 8" in the whole year out there, and that 8" comes right in between July and November. We have some very important work out there that takes me out quite often, and I enjoy the trip. . . . I have been out hunting in the wide open spaces in the last two or three weeks. It was one of my Christmas season enjoyments to go out and try to bag a nice buck deer or a nice gobbler turkey. I have gotten one of each this year, at two kinds of hunts. The old way is camping out and hunting in the open, walking around and finding your deer or your turkey. The newest method though is a deluxe way. Some industry leases a lot of land for hunting and puts in a deluxe camp where you go and live and sleep and eat in a house just as good as in San Antonio with all the comforts of home. You are taken out to the hunting grounds and placed in a little shed about 6' square with slots all cut around the side of it and curtains hanging over them. You sit and wait for the deer or turkey to come up, and with feed placed all around you, they always come. The main problem then is to pick out the bucks from the does which is fairly easy because they have horns, but the hard part is to pick out a gobbler from a hen, because there is very little difference in them."

**E. M. Graham**, I, Shaw Island, Wash.: "Mild winter here in the San Juan Islands so far. No snow and no colder than 27°F. Retired from railroading over 20 years ago, and from land surveying one year ago, but busier than ever about the place, outdoors every day." . . . **Lloyd T. Buell**, III, 1618 St. John Road, El Paso, Texas: "Thank you for the card. Eleanor and I keep well. After several years with an association of general contractors I am just now 'between jobs,' perhaps permanently. Have gone back to school. Am taking the Continental Classroom T.V. course in Math and a course in punched card machines."

**Joseph Daniels**, III, 5816 Vassar Ave., Seattle 5, Wash.: "Gladys and I went to Japan on April 1, remaining there for six weeks, then she went home westward via Hong Kong, Kashmir, Lahore, Jerusalem, Cairo, Athens, Copenhagen via Polar Flight to Anchorage, stop there to visit a daughter, Seattle, and home about middle of August. I returned direct, also with stop off at Anchorage then home. Our son-in-law, among other accomplishments, is an Alaskan pioneer, flies his Piper Cub, and I had the pleasure, privilege, and thrills of flying with him and taking pictures of the areas near Anchorage. I'm hoping to get back and see more of that part of Alaska. Well, I manage to keep occupied, something to do all the time, plenty of time to do it, and "manana" if not today. I've been a member of A.I.M.E. for 50 full years, and as such am entitled to a piece of ribbon or a badge and a certificate. I am wondering whether to try to go to St.

Louis, late February, to pick up the "trash." Elder citizens, I believe, should not rush out into public places. Well that's my story. My best regards to any classmates you may run across."

**Herbert S. Bailey, V**, 1122 North Euclid Ave., Ontario, Calif. (extracts from his annual Xmas letter to his family): "The berries on our holly tree are still green. They don't know it's Christmas, and octogenarian grandfather must also be out of step with time for he is younger than a year ago. Could be his potting in clay that keeps him out of the sod. It has been a busy, therefore happy, year for him. He had his County School Board and Civil Service to attend in San Bernardino and the committee on site for a new State College. His Sunday School class kept going, and there was the Art Association Board and a little Scouting. He drives to the new College Campus, ten miles away, and stays most all day to work in the Ceramics Lab when he has nothing else to do. The various meetings of educators and civil service personnel give him a bit of traveling and are always enjoyable and edifying. The one at Asilomar in March was especially profitable. Then in September he spent two weeks up there and had a few days north of San Francisco doing geological mapping. It is beautiful, rugged country with many of the giant redwoods still uncut. Grandfather just helped a little in the ceramics summer course and worked part time afterwards firing pots for a few students who just couldn't quit when school was out."

**George Fuller, I**, 25 Fairview Crescent, Rochester, N. Y.: "I am still going in and out of the hospital. Re-enter on the 27th for another checkup. Rather monotonous. Trust you both are in good health. Left Florida in June and am uncertain about returning this winter." . . . **Carlton E. Atwood, VI**, 50 Highland Ave., Newtonville 60, Mass.: "Everything here much as usual. The doctor tells me I'm a 17 year old at heart, mentally and physically. So long." . . . **Herman Eisele, XIII**, 824 Engineers Building, Cleveland 14, Ohio: "Just to correct an impression. I have not retired. Why should I retire? I am not even 80. I still maintain my office as consulting Engineer, specializing in production equipment for steel containers and related items, in which I have been very active for 47 years. Have just received a plaque for 50-year membership as a charter member at the 50th anniversary celebration of the founding of the Cleveland Rotary Club. Kindest regards to Tower. Hope this finds you both in the best of health and spirits."

Due to a suggestion from the editor of The Review, that we condense class notes as much as possible, I will not enumerate those whose Christmas greetings did not include particular items of class interest. There were about 50 which I hereby acknowledge with thanks. **Bert Files'** card contained the announcement that he and Alice had moved to Pleasant Street, R.F.D., Norwell, Mass. . . . I had a note from **Ben Lindsly, III**, stating that he and Leslie had moved east (to Falls Church, Va., I think) but I have

temporarily (I hope) mislaid the card. . . . Change of address: **A. Warren Wells, IV**, from Altus, Ark., to Star Route, Vernon, Fla. Classmates in that vicinity please contact him.

In the December issue I reported the death of **William J. Sneeringer, Jr., III**. Through Mrs. Sneeringer I received a copy of an obituary from the Baltimore Sun, which I quote: "William J. Sneeringer, Jr. of 1507 West Joppa Road, Towson, Maryland, beloved husband of Hettie Caldwell Sneeringer and beloved father of William J. Sneeringer III, John C. Sneeringer and Mrs. Ralph Bolgiano, Jr., passed away on August 21, 1960. Services in the Chapel of the Holy Comforter Episcopal Church, Bellana and Seminary Avenues, Lutherville, on Tuesday at 11 A.M. Interment in Gunpowder Friends Meeting Cemetery." . . . Through the Alumni Association Office we learn that **George C. Bunker, VII**, address somewhere in Panama, is apparently deceased.

I have just learned through **Hub Kenway** that **William Green, VI**, passed away at his home in Barrington, R. I., on December 26, 1960. Bill had been bedridden with an oxygen tank at his bedside, for several years, yet news of his passing comes as a shock to those who knew and loved him well at the "Tech on Boylston Street." To his widow, whose love and constant attention supported him during his long illness, I am sending the sympathy of his classmates.—**Fred W. Goldthwait**, Secretary and Treasurer, Box 32, Center Sandwich, N. H.; **Gilbert S. Tower**, Assistant Secretary and Treasurer, 35 North Main Street, Cohasset, Mass.

'06



"I wish that I were back again"—but not to Boylston Street next June. Would you settle for the Cambridge Campus instead? Time marches on, yea verily, so why not sign up for our 55th! We will guarantee that you will never regret a visit, or a revisit, to the "hallowed halls" along the Charles River Basin that incidentally will be 45 years old come June, at least some of them. From letters and notes on our cards we get a few bits of news to pass along. . . . **Harold (Cy) Young** says: Am back on my feet after two years." You may remember that the **Shermans** found Cy in the hospital in Ft. Lauderdale with a broken hip when they drove over to Pompano Beach in January 1959 to see him. Sure a broken hip is no fun, so be wary o' them icy sidewalks, Cy. . . . **Percy Tillson** and Anetta were back from their "island hopping" in time to have a Tech reunion at Thanksgiving in Washington, Del., with son Henry C., Course V, '44, and his niece's husband John Parnell, Course VI, '40. . . . **Mrs. Cady** has sold the house in Portland, Ore., where she and Bill had spent so many happy years and now has an apartment in Rose Villa on the Willamette River just south of Portland. . . . The **Coeys'** artist son Kent chose a typical New England village winter scene for their card, a

homecoming by train. . . . **Tom Hinckley** is an artist too, with his camera, and gave **Jim Wick** the wherewithall to fashion a striking card, a picture in color, across the mill pond, of the old house he bought (for his grandchildren he says) in Rockport. Drop in anytime in the summer when you are in the vicinity of #6 Holbrook Court, and ask Jim for a plate of beans. . . . **Stod Pulman** and Etta keep well and busy, but as he says, "not as actively as formerly." . . . **Guy Ruggles** was rejoicing over the return of his daughter, her husband, and four children from Spain. He was expecting his son Guy to join him at Phoenix and drive to the Mountain Home Air Force Base in Idaho to spend the holidays with them. It was the first time that Guy and Nancy and son Gary were to be together since 1948.

The Florida natives probably had some '06 visitors during January and February, as the regulars were planning to leave the snow belt then. **Burton** and Marie **Kendall** planned to be at Lake Wales for several weeks and then move around; the **Shermans** as usual at Sarasota; **Frank Benham** at Daytona Beach; **Jack** and Margaret **Norton** had sold the Lindsey Vineyard in Tryon back in December and after a spell in Florida Jack thought they might head north along in the spring. That's a grand idea and plan to stop off in Cambridge on June 9 or 10 for a few days. Besides the New England guys and gals, the **Kendalls**, **Taylor**s, **Shermans**, and **Coeys** are definitely anticipating attending our 55th then. Are you?

**Paul Lincoln, III**, has been mining in British Columbia for the past 35 or 40 years, first in Sandon and most of the time in Nelson, but along in '59 he sent through a change of address to Los Angeles. Last November, however, he asked to have his address changed back to Nelson, B.C. (610 Silica St.), and I wondered what happened in L.A. Was it the heat, or the crowd, or the smog, Paul?

Regretfully we have several deaths to report. From a clipping from The Seattle Times we learned that **Charles Eaton Hamilton, VI**, died on November 14, 1960, probably the result of injuries received in an auto accident a couple of months before. Charles was born January 7, 1885, in Wyoming, Mass., and his home address was Charlestown and Beachmont. He prepared at English High in Boston, entered Tech and graduated with '06, was a member of the E.E. Society, and his thesis was: "A test on a 10 H.P. Gas Engine Driving an Electric Generator." For a few years he was in Boston, briefly with American Tel and Tel and then for eight or nine years with the Lamson Company. In 1916 Lamson moved him to Philadelphia as sales engineer and around 1920 to Seattle as district manager. Later he became a manufacturers' agent with offices in both Tacoma and Seattle. Charles was a member of the M.I.T. Club of Puget Sound, of the Seattle Elks, and the Engineering Club.

Although he died in the Veterans Hospital in Jamaica Plain, the first we learned of the death of **Charles Randall Burleigh, II**, was by letter from his one-time buddy and roommate, **Bob Cushman** from Portland, Ore. More information came later



through the Alumni Office in a clipping from the Malden News. Charles died November 23, 1960, following a long illness, Bob believed. He was born May 28, 1883, in Portland, Maine, but the family soon moved to Malden where he prepared at the High School, entered Tech and graduated with '06, being a member of the M.E. Society. His thesis was: "Comparative Costs of Using Hard and Soft Coal in the Institute Boilers" (with **W. W. Gaylord**). Charles wasn't a "grind" either. He was in two Tech Shows, one of the Dutch Men in the Chemical Maid our junior year, and one of the College Men in The Freshman senior year. His first love, however, was athletics, in which he participated all four years, winning his T in basketball, and usually placing in the high jump and pole vault in the meets. Bob Cushman roomed with Charles on two jobs soon after graduation, first with the Consolidated Car Heating Co. in Albany, and later with the American Bridge Co. in Wilmington, Del., and they have maintained contact these many years by correspondence. In fact, Bob was informed of his death by Mrs. Burleigh. By 1908 Charles was back in Boston for a couple years with the engineering firm of H. P. Converse as superintendent of construction, then for eight years was in Fort Worth, Texas, with the S. W. Mechanical Co. and Texas Builders Supply Co. From 1920 to 1934 he was with Fred T. Ley Co., American Furnace Co., Stone & Webster, U.S. Mechanical Co. and J.H. Tower Iron Works, in various capacities involving estimating, design, and construction, and in various locations. Charles was back in Boston again by 1934 with Boston Bridge Works for four years, then for 10 years or so with E. B. Badger, and for short periods with Chas. T. Main and Jackson & Moreland. He retired in 1954 because of an age limit rule, and settled in Hyannis. However he was back in harness in a few months as structural engineer with Metcalf & Eddy, retiring again in 1958 because of failing health. In W.W.I. Charles was a Lieutenant in the Engineer Corps and had always been an active member of the American Legion, in the Posts in Holden, Cambridge, and Hyannis; was Past Chef de Guerre of the Massachusetts Voiture of the Forty and Eight; a member of Mt. Vernon Lodge of Masons, Knights Templars of Malden, and Aleppo Temple; Past Patron of Eastern Star of Fairhaven, and a member of several engineering societies. He leaves his wife Mrs. Marjorie (Lund) of Hyannis and two sons Robert, of Holden and Donald E., of Hudson, N.H., and four grandchildren.

On November 24, 1960, **Clarence Edward Tucker**, V, died in Foxboro, Mass. He was born September 29, 1884, in Hyde Park, prepared at Hyde Park High School, entered and graduated with '06, was a member of the Chemical Society and his thesis was: "Some Investigations on the Analysis of Reducing Sugars." After a short period with Factory Mutual, Clarence formed a partnership with **Jim Orme** as Consulting Engineers and then was chemist at the Readville Color & Gum Works. Since 1920 he has been a consulting chemist experimenting with tanning processes. He was President of R. E. Sage

Co. in Boston for several years and from 1940 until his death was Treasurer of Kent Labs, Inc., of Foxboro. Clarence married Ida Wetherbee in 1909 and is survived by a daughter, Miss Miriam Tucker, of Foxboro, and a son, Donald K. of Lexington. A letter expressing the sympathy of the class was sent to the daughter and a copy to the son. **Jack Norton** had written me December 15 that he had seen Frank MacGregor, '07, and learned of Clarence's passing from him. "He was one of my closest friends during our days on Boylston Street but I have seen him only a few times since."

On January 1, 1961, **Frederick Russell Bachelder**, VI, died in the Exeter, N.H., hospital. Fred was born December 4, 1884, in Hampton, prepared at Phillips Exeter Academy, entered and graduated with '06, was a member of the E.E. Society and his thesis was: "Gas Engine Test" (with **E. P. Chase**). Except for his first few years with Westinghouse and a spell in the Signal Corps (401st Telegraph Battalion, Supply Section) in W.W.I., his entire career was with New England Tel & Tel Co. in Boston, during which he successively assumed positions of varied responsibility. President **Kidder**, whose career with N. E. T. & T. paralleled that of Fred, represented the class at the service at Trinity Episcopal Church in Hampton, having been included in a group of younger telephone men from the company. After that service Jim had a chance to chat with **Wear Rowell**, III, who is living almost across the street from the Bachelders. Later Jim wrote Mrs. Bachelder expressing the sympathy of the class. Fred had been active in Hampton and Hampton Beach civic affairs, serving as chairman of the Hampton Sewer Commission and as a precinct member in Hampton Beach. He was the first Commodore of the Hampton Beach Yacht Club, a member of Star in the East Lodge, AF & AM, of Masons, and of the Society of Electrical Engineers.—**Edward B. Rowe**, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills 81, Mass.

## '07

I am sure many of the '07 men read in the news of January 2, with a distinct sense of loss, that **Clarence Decatur Howe**, '07, had died on New Year's Eve at his home in Montreal from a heart attack. A brief note in the Boston Herald and word from the Alumni Association was all the news I was able to obtain until Henry Martin, '07, sent me a clipping from the New York Times of January 2, 1961, from which I quote: "Clarence Decatur Howe, widely known as the architect of Canada's war effort and post-war economy died at his home last night of a heart attack. He was 75 years old. Mr. Howe was one of the closest advisers to the late Prime Minister William Lyon Mackenzie King. He was a member of Mr. King's Liberal Cabinet as Minister of Munitions and Supply during World War II, and after hostilities ended, as Minister of Trade and Commerce. It was in the for-

mer capacity that he held a key role in organizing Canada's war effort and shaping the wartime aid to Britain, and in the latter capacity that he diverted Canada's industrial energies and helped create a booming postwar economy. He leaves his wife, the former Alice Worcester of Boston; two sons, William and John, and three daughters, Elizabeth, Barbara, and Mary.

"Born in Waltham, Mass., January 15, 1885, C. D. Howe, as he preferred to be known, was educated in the Massachusetts public schools, took his engineering degree at Massachusetts Institute of Technology in 1907 and later went to Halifax as Professor in Civil Engineering at Dalhousie University. He then took Canadian citizenship."

Funeral services were held in Christ Church Cathedral, Montreal with burial in Mt. Royal Cemetery. The funeral was attended by a large number of the most prominent men in Canada. The pallbearers were Clarence's two sons, Commander W. H. Howe, of Halifax, and J. W. Howe of Montreal, and his sons-in-law, J. D. Dodge and R. W. Stedman, both of Montreal. Clarence had suffered from angina pectoris for two years and had had a series of mild attacks during the last six months. He flew to England shortly before Christmas; and, when asked why he did not give up some of the load he was still carrying, replied: "Nonsense! I refuse to be made an invalid."

Many of the '07 men in and around Boston will recall the dinner at the Algonquin Club given by Clarence on October 4, 1953, to which all '07 men had been invited to be his guests. We actually had 31 classmates at the dinner. At that time, Clarence was Minister of Trade and Commerce and also Minister of Defense for Canada. None of us who were there will ever forget the simple and humble way in which Clarence Howe outlined the highlights of his career from the time in 1907-1908, when he was an Assistant in Civil Engineering at M.I.T., to that memorable October of 1953 when, although he made no comments about it, he was one of the most influential men in the world in international affairs. Your secretary and his wife called on Clarence at his office in Toronto several years ago when on a vacation in Canada, and spent a very pleasant hour with him. We were amazed at the respect in which every one of his office staff held him, and they were very proud to tell us about his services to Canada and their loyalty to him.

The following editorial appeared in the Ottawa Journal of January 5. It is entitled, "Prides of a Good Man." In the days of mourning for his death there came to light varying facets of the shining personality of C. D. Howe. This master of organization and business management had a rich vein of sentiment, revealed by his life-long pride in being a graduate of the Massachusetts Institute of Technology which made him a governor. He had planned with a classmate, Mr. **K. G. Chipman** of Ottawa, to attend the 55th reunion of his class next year. He had felt it high honor to be made chancellor of Dalhousie University recently and to have part in forwarding scholarship. The halls of learning thus owed him a debt and, in

contrast, visitors to Lakehead grain terminals which he designed and built recall the devices to speed operations and ensure safety he invented and put in operation without fussing about patents. He could be stern but he will be remembered as a man who gave of rich talents generously."

To Canada and the world, he was the Rt. Honorable C. D. Howe, a man so big, his enormous impact on Canada can never be measured. To the men of 1907, he was "Clarence"—a friend and classmate to every one of us, no matter what our business or social status might be.

**Henry Martin** wrote me in detail of an '07 luncheon meeting held on December 29, 1960, at the Columbus Circle Coliseum Restaurant in New York City, attended by **Louis A. Freedman**, **Robert Taylor**, **Hugh Pastoriza**, and himself. Bob Taylor is engaged as the valuation expert on Building Condemnation by the City of New York. Hugh Pastoriza is connected with electric power financing in the Far West and South, through his company, Coffin and Burn, while Louis Freedman is still working on his new aircraft diesel engine which operates without crank shaft mechanism. Another such luncheon for all '07 men in New York and vicinity is to be held in May, at the famous Shish-Kebar Rendezvous. Write to Henry for the exact date. His address is Water & Mechanic Sts., Mattapoisett, Mass. . . . The Alumni office is requesting any information relative to two '07 men: **Max A. Greenburg**, Course III; and **Edgar C. Ballou**, Course IV. They are assumed to be deceased.—**Phil Walker**, Secretary and Treasurer, 18 Summit Street, Whitinsville, Mass.; **Gardner S. Gould**, Assistant Secretary, 409 Highland Street, Newtonville 60, Mass.

'08

The second dinner meeting of the 1960-61 season was held at the M.I.T. Faculty Club on Wednesday, January 11, at 6 P.M. Early replies indicated a good turnout but a sudden influx of colds and virus prevented many from attending. However, we had a quorum as **Bill Booth**, **Nick Carter**, **Fred Cole**, and **Sam Hatch** showed up. Mrs. Hatch was our only guest. We had our usual table in the cocktail lounge and enjoyed the buffet while drinking toasts to our absent brothers and wishing for their early recovery. **Bill Booth**, our class agent, was happy in reporting a gift of ten thousand dollars to the Alumni Fund from the Rockwell Foundation. This gift will be used to establish the **Willard F. Rockwell** Scholarship Fund. We then moved on to Private Dining Room No. 1 for the usual fine dinner. With **Joe Wattles** in Florida we had no Kodachromes so adjourned fairly early. The third dinner meeting of the 1960-61 season will be held at the M.I.T. Faculty Club on Wednesday, March 8, 1961, at 6 P.M. Try to make it, will you?

**Harold Osborne** continues to be the recipient of high honors. He was awarded the prized Edison Medal of the American Institute of Electrical Engineers at the

Institute's winter general meeting in New York. . . . **Marie Burch**, who took up painting as a hobby some eight years ago, was a prize winner in the 1960 Fine Arts Competition for students and graduates of the Famous Artists School, Westport, Conn. Marie's painting, "The Cloister" will be included in a year-long national tour of the winning works which opened with an exhibition in New Orleans in January. . . . How about the Alumni Fund? Have you subscribed? Please do, and soon.

Am sorry to report the deaths of several classmates: **Rae W. Davis** of Largo, Fla., on October 20, 1960; **Charles C. Benton** of Wilson, N.C., on October 25, 1960. . . . H.A.S.N.?—**H. Leston Carter**, Secretary, 14 Roslyn Rd., Waban 68, Mass.; **Leslie B. Ellis**, Treasurer and Assistant Secretary, 230 Melrose St., Melrose 76, Mass.

'09

It is with deep regret that we announce the death on October 30 of **Helen Longyear Paul**, IV, which occurred unexpectedly in Ithaca, Mich., while she was enroute to her home at Marquette after delivering an address on "An Upper Peninsula Research Collection" at a history conference at Detroit. At the conference she was presented with an award of merit from the American Association for State and Local History for "a lifetime of distinguished leadership in local history activities in Michigan's Upper Peninsula." Helen prepared for the Institute at Burnham School for Girls, Northampton, Mass., and one year at Smith College. As all will recall, she was class secretary in our sophomore year, was art editor of *Technique*, and a member and vice president of *Cleofan*. In 1911 she married **Lt. Carroll Paul**, then Professor of Mathematics at the U.S. Naval Academy, who later became Commander. She accompanied him on a tour of duty to the Philippines in 1913. In 1922 he resigned from active duty in the Navy and with Helen moved to Marquette to become executor of the Longyear estate until his death in 1937. The award of merit to Helen symbolized a lifetime of devotion to historical subjects and projects that earned for her the recognition as an outstanding authority on history. For many years she was a trustee of the Peter White Public Library, was Curator of Marquette County Historical Society Museum, a member of the Historical Society of Michigan, the American Library Association, Daughters of the American Revolution, and the Marquette Woman's Club. She was also a consultant to a number of restoration projects. An editorial of the *Morning Journal of Marquette* stated, "If she had never devoted her time, effort, and wealth to historical and scholastic causes, she would still be remembered as a person whose warmth and kindness were without bounds. Many of her philanthropies were unknown to anyone but herself. She gave much to private and personal charities without allowing it to become a matter of public

record. She never distinguished the rich and the poor, but was ever ready to help the deserving poor."

She is survived by two sons, **Howard Paul** and **Philip Martyn Paul**, and two daughters, **Mrs. Kenneth (Judith) C. Case, Jr.**, and **Mrs. Joseph (Beatrice) H. Young**. Helen left a \$1,000 insurance policy payable to the 1909 Scholarship Fund. The secretary is greatly indebted to **M. L. Tibbitts**, executor of the estate, for the foregoing information and he has asked him to extend the sympathy of the class to Helen's children.—**Chester L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass.; **George E. Wallis**, Assistant Secretary, Wenham, Mass.; **Francis M. Loud**, Assistant Secretary, 351 Commercial Street, Weymouth.

'10

Due to unavoidable circumstances I was not able to have class news ready for the past two issues of *The Review*. Also, but little news has been available since our Fiftieth Reunion. During the past two months I have received notices of the death of **Samuel Kostick** of Brookline, Mass., on September 18, 1960, and **Sterling H. Pool** of Rockport, Mass., on October 30, 1960.

I have received a letter from **Joe Northrup**, excerpts from which follow: "Sure sorry I could not make it up to our 50th, but got a bit of consolation from your write-up in the last *Tech Review*; especially from seeing that cheerful cut of yourself. You've got more hair left than I have, even though it looks a bit whiter. From the relative number of Option 1 and Option 2 fellows getting back there, I judge that engineering must be a healthier branch of the architectural profession than the design end. Glad I took a bit of each. Hope that I may yet be able to make it up to that neck of the woods, and if I do I will certainly look you up. Remember me to any of the old 1910 bunch that you may run across." . . . **Andy Fabens** sent **Dud Clapp** some very interesting pencil sketches made by Andy's wife **Rae** of classmates attending the past two reunions. I will keep them in the class file and show them at future reunions. Andy's letter states: "We went on to Cleveland and Huron, Ohio. We had a cool summer and stayed on until September 13, after Donna had gone North. It did no damage around here as it went north of Tampa before coming back to the Atlantic near Daytona."

I had a Christmas card from **Walt Spalding** with the following note thereon: "That really was a grand 50th Reunion at Lincoln. We expected a good and interesting time but it was much better than that. I have incorporated my practice under the name of **Spalding & Beyer, Inc.**, so that I can feel free to take **Romalda** on a five-month trip around the world starting in February via all five continents, except South America." . . . **Harold** and **Jess Akerly** made their annual visit during the Christmas holidays. Their daughter lives in Newton and they have a family gathering every year at



Thanksgiving and Christmas. Harold is now a consultant to the School Department of Detroit, Mich. He expects to finish this work in the spring and then take a trip to Scandinavia for several weeks. . . . I had a letter from **Phil Harris** who is trying to get a couple of copies of the 1910 Technique. I feel I can help him. It is the first I have heard from Phil in many years. The following is from his letter: "My professional work developed into big buildings. After 1928 I had an association with Mr. Bernard J. Converse. He was trained as an engineer at Lehigh. He carried out business angles—I architectural designs and drawings. Here are a couple of pictures of our work. I retired in 1954, modern styles being impossible for a man trained in balance and symmetry under the inimitable Despradelle."—**Herbert S. Cleverdon**, Secretary, 120 Tremont St., Boston, Mass.

## '11

Keep your eyes open for the "Eleven-er" which will be out at the end of this month, and send in the accompanying coupon to take care of your reservation for room facilities at Snow Inn for our June Reunion. Here's hoping we will have a fine attendance.

**Albert O. Wilson, I**, who passed away September 19, 1955, has been honored by the installation of the Wilson Memorial \$90,000 organ at the Park St. Church in Boston. The organ is a gift to the church from the Wilson family, and will memorialize his great love for music and his ability as a musician. He was a member of the Park St. Church, and his widow still attends church there. Possessed of a beautiful tenor voice, he was known throughout Greater Boston as a soloist, both in churches and on the concert platform. He also trained and directed choirs and choral groups with great success. For many years Albert owned and successfully operated the A. O. Wilson Structural Co., in Cambridge, and it is still owned by his family and operated by his son Albert, Jr., who lives in Lexington, and his son Donald, who lives in Concord. His daughter Anita, now Mrs. Norseen, lives in Boston. His widow is still residing at 23 Yale St., Winchester.

General **George Kenney, I**, President of the National Arthritis and Rheumatism Foundation, presented a report last year to Vice President Nixon on "Arthritis Quackery." According to his report more than \$250,000,000. a year is swindled from United States victims of this crippling disease by promoters of fraudulent drugs and devices.

The following quotations are from a fine four-page brochure received from Otilie and **Paul Cushman, VI**, Oklahoma City, describing their colorful activities for 1960, and some historical and topographic data: "We appreciated all the letters and cards last Christmas. We, ourselves, are well. Paul is continuing his work at the L.&S. Bearing here and work in bearings at Tinker Airforce Base, Midwest City, and correction of correspondence papers in Thermodynamics for Okla-

homa University. In February Paul's name appeared in the 1960 American Men of Science. Otilie prepared 42 small gifts for patients in the Indian Tubercular Hospital at Talahini, and material for their therapy. Her Unitarian Women's Alliance has been doing this for several years. In March she attended the DAR State Conference, and went with a group to Tulsa for a day. In April Paul attended the 66th Assembly of the Grand Council of Royal and Select Masters at Shawnee. Paul took a prize at Kalico Kapers and Silver Spur Square Dance Clubs' Easter hat parades, modeling originals by Otilie. In June we boarded the special train with 250 Oklahomans and friends from nearby states for the 9th National Square Dance Convention at Des Moines, Iowa. Entertainment there included twelve exhibition square dance groups, a luncheon with western style show, an Oklahoma banquet, and sightseeing, including, beside the city, Iowa State University at Ames with a guide and Ledges State Park. In July Paul cut his hand in a machine in a 'minor industrial accident' at the Bearing Co. He fainted as they helped him, and they then called an ambulance. Eight stitches were taken, and he had a number of therapy treatments. Also in July we took a 245-mile drive to southeast Oklahoma over some roads for which Paul figured cuts and fills one summer he worked for the State Highway. In September we went through the Aero Commander Factory here with the M.I.T. Club. In October Paul flew to Philadelphia for three days at the National Metals Show, where, as a 35-year member, he was a guest with about 50 other members at the distinguished service luncheon of the American Society for Metals. In November Paul took a part with the Oklahoma City team at the Scottish Rite, at Guthrie. We are planning now to go to the reunion. We may have to fly. Friends may come with us."

**George Cowee, III**, has recently written a book titled "The Ups and Downs of Common Stocks," published by Vantage Press, Inc., of New York. The publisher says: "It was written to provide the average investor with the basic principles of investing his money in securities wisely and well and to alert him to the pitfalls awaiting those who still cling to the get-rich quick theory and other exploded myths." George has also written several previous books on Stocks and Bonds, Safety Methods and Devices, etc. . . . A clipping from the "News & Press," Darlington, S.C., was received from the widow of **John L. Wilds, II**, who died last November. John has B.S. degrees from the University of South Carolina and from M.I.T. Upon graduation from M.I.T. he immediately went to work for the Inspection Department of the Factory Mutual Insurance Companies in Boston as fire protection engineer, joined Protection Mutual Fire Insurance Co. of Chicago as consulting engineer in 1914, became Vice President in 1918, and was elected President in 1935, and Chairman of the Board in 1953. He was also director of several other insurance Companies. Surviving are his widow Mary, a sister, two daughters and six grandchildren. Our sympathy and best wishes for the future to all. . . .

**Harold M. Davis, I**, of North Calais, Vt., died last December 7 at the Maine Medical Center in Portland. He was for many years with the firms of Thompson & Litchner and the Nashua, N.H., Gummed and Coated Paper Co. From methods engineering in paper conversion he went into independent consulting, working on the problem of making level paper. In recent years he had worked through an independent corporation, Precision Paper, Inc. Surviving are his widow Evangeline, two sons a daughter, and eight grandchildren. Our sympathy to all. . . . **Frank C. Taylor, VI**, of Rochester, N. Y., died last November 29. No further details were received.

The following address changes have been received: **Frank F. Rupert, V**, 817 Palmetto Ave., Melbourne, Fla.; **Samuel M. Schmidt, VII**, c/o M. Sivitz, 3931 Dickson Ave., Cincinnati 29, Ohio, his former address; **Allston T. Cushing, I**, 6638 Bellefontaine Ave. Kansas City 32, Mo., just a change of zone number 30 to 32.—**Henry F. Dolliver**, Secretary, 10 Bellevue Rd., Belmont 78, Mass.; **John A. Herlihy**, Assistant Secretary, 588 Riverside Ave., Medford 55, Mass.

## '12

**Irwin S. Joseph** passed away in New York on October 7. After doing graduate work with us at M.I.T. he studied further at the University of Berlin. He joined City Stores in 1940 and was with them until 1945 as a vice president. He then became director and secretary-treasurer of Oppenheim & Collins Company, the Division of City Stores, holding this position until his retirement several years ago. During World War I, Irwin developed a process used in the manufacture of permanganate of potash. He is survived by his widow, the former Ann LaSalle, son John and daughter Barbara.

Word has just been received that **Strathy R. Mackellar, VI**, of 29 Melinda Street, Toronto, passed away in October. His daughter has kindly given me the following information: After graduation from McGill University, Strathy took his degree with us at M.I.T. and later attended the University of Toronto. He entered the brokerage firm of Laidlaw & Co., in Toronto and later became a partner of S. R. Mackellar & Co., which was founded in 1926. At the time of his death he was chairman of the board, and had been a member of the Toronto Stock Exchange since 1926. He married Gladys Willis of New Orleans in 1914 and they have two daughters, one of them married with a son.

A good letter from **Gene Marceau** describes the visit from hurricane Donna. When they heard that the wind was headed their way they filled bottles and the bathtub and tried to buy all the Sterno that was available. Stores were selling only one candle to a customer. They pasted adhesive tape over the lower portion of the doors and also braced the windows. About 9:30 P.M. the power went off and they sat it out experiencing one gust that shook the apartment and was

estimated at 100 miles per hour. The following morning, the sun was shining, wind and rain were gone, and they resumed their tranquil living. As Gene says, "peace, it is wonderful." . . . **Fred Busby, VI**, retired as manager of the Credit Union at M.I.T. on December 31, and is now teaching math at the Manter Hall School in Harvard Square. This school is commonly known as the "widow," a cramming school for Harvard and M.I.T. . . . **Charlie Webber, VI**, writes that after a short term of duty with the Stevens Duryea automobile plant in Springfield, he went with the Underwriters' Laboratories, inspecting electrical equipment. He later shifted to casualty insurance and worked as an assistant to the actuary. He later changed to accident prevention work, becoming associated with the Kemper Group, of which the Lumbermen's Casualty Company is the largest. Although retired several years ago, he is again associated with that organization handling special assignments. He is a life member of the Insurance Fleet of Safety Associates and the American Society of Safety Engineers.

A reprint from the Hawaii Medical Journal entitled "Aloha Dr. Levine" pays high tribute to our classmate who has spent the greater part of his life on the Islands. Born in Poland, **Max Levine** came to Boston as a youngster and received a B.S. in biology and public health in 1912. He received his doctor's degree in bacteriology at the University of Iowa in 1922. He was interested in purification of industrial wastes particularly those from packing houses and creameries. During World War II he was associated in the work on penicillin. The last paragraph reads: "Hawaii is healthier, wealthier and wiser for having had Dr. Levine here these last 13 years. We regret the necessity for his retirement and are grateful that he can stay on the job as a consultant."—**Frederick J. Shepard, Jr.**, Secretary, 31 Chestnut Street, Boston 8, Mass.; **John Noyes**, Assistant Secretary, 3326 Shorecrest Drive, Dallas 35, Texas.

# '13

Here's hoping that you survived the holidays. Did you resolve to write your secretary more often than you did in 1960? . . . Again, Professor **Allison Butts** has been honored and was selected to join the McGraw-Hill team of over 2,000 specialist engineers and scientists for the forthcoming Encyclopedia of Science and Technology. Allison prepared a 4800-word survey article on copper. As you all know, "Prof." Butts graduated from Princeton in 1911 and M.I.T. in 1913. He is now professor emeritus of Metallurgy, Lehigh University. He joined the faculty at Lehigh in 1916 and became head of the Department of Metallurgy Engineering in 1952. He retired from teaching in 1957. Good work, Allison. It is a pleasure to hear from our retired classmates.

We were very happy to receive Christmas cards from some of our loyal mem-

bers of the class, including the Thompsons; the Brewsters; the Weeks; the Mattsons; the Gustins. Several others sent personal messages such as the **Bonneys** "Folks, are you all right? We haven't heard from you for quite a while. Let's hear from you or see you."

We are indebted to Burton G. Philbrick, Secretary of the Class of 1902, Bill Brewster, and Jack Farwell for the sad news of the death of **Thomas W. Pinnock**. From the Salem Evening News: "Memorial services for Thomas Wellington Pinnock of Maitland, Fla., formerly of Salem, who died Sunday (December 11, 1960) in Orlando, are being held today in Winter Park, Fla. Mr. Pinnock was the son of the late Thomas G. Pinnock, mayor of Salem in 1906 and 1907. He was born in this city and was graduated from M.I.T. He had made his home in Florida since his retirement from the General Electric Company, Lynn, 14 years ago. Mr. Pinnock is survived by his wife, Mrs. Mary H. Pinnock; a son, Thomas W. Pinnock, Jr., of Alamonte Springs, Fla., and six grandchildren." . . . **Bill Brewster** writes and we quote in part: "I was glad to see your 1913 news in The Review, but not pleased to see all the 1913 men listed among those we shan't see again. I suppose we have to expect that sort of thing, but I don't like it. And I have to add another name, that of T. W. (Ding) Pinnock. I wrote his wife Mary. She said it was quite a shock, and for as long as she had known Ding, and that was 50 years, he had never been ill, even a day. He had no aches or pains, but in November complained of being tired, went to a doctor, had X-rays, etc. Nothing was found. However, he didn't improve and went down fast, went to the hospital Thursday, and died Sunday. Otherwise I have no news of the class, except that I called **Jack Farwell** to tell him about Ding, and also talked to **Ed Hurst** the other day. To my surprise, I had a heart attack in early November, was in the hospital for a time, then home, but under quite a restricted regimen as to activity. There's nothing to worry about, the doctors say, if I will have a little sense and not overdo, mentally or physically. As part of the treatment, and this is hard to take, we are off to Florida on Tuesday, for about a month, and when we return I should be able to resume some activity, subject to the above limitations of being sensible. I do hope the reunion this next June eventuates. We ought to have one, and as I said before, at whatever place will suit the largest number. The principal thing is to see each other." Many thanks, Bill, for your newsy letter and we sincerely hope that you will be back in Plymouth soon and will continue your usual good health. . . . We also heard from **Jack Farwell**. He also desires news as to program, location etc., of the interim reunion. Due to the usual illnesses of minor nature of the Capens, the Achards, and the ever travelling Thompsons, we are unable to give definite plans at the moment, but next week we three couples will meet and formulate certain plans for the June Reunion and you will be sent suggested plans for your approval and suggestions.

Jack further writes: "I retired from Sperry Products as president, continued as chairman and consultant until we sold the company. I have been busy as ever on various projects. I have just completed the reconstruction of an old colonial house next to ours. Never again. Hope now to have time on maintenance and improvements to about 50 acres of real estate with tractors, chain saws and miscellaneous equipment. Am reminded by Jeannie, however, of the planned trips to California and Europe. We are both feeling fine, enjoying life and waiting for the June reunion. Hope any 1913ers in this area will drop in."

Again, we must bring very sad tidings. "**Henry G. Hauck** of Flushing, Queens, a retired professional engineer, formerly associated with Alexander D. Crosett and Associates, died Saturday (November 28, 1960) of a heart attack in Flushing Hospital. He was 69 years old. Mr. Hauck was born in Boston and graduated from Massachusetts Institute of Technology. He had also been employed by the Turner Construction Company. Surviving are his widow, Marcella, and a daughter, Barbara." To Mrs. Hauck and Barbara we extend our most heartfelt sympathy. . . . The Grim Reaper strikes again. With a very heavy heart, we must announce the passing of another classmate. On December 30, 1960, **George H. Clark**, of Cincinnati, Ohio, died after a long illness. In spite of being incapacitated for several years, George has been a frequent correspondent. The details of his last illness are not known to your scribe. George was born May 12, 1890, in Paris, Maine. He graduated from M.I.T. in 1913 and stayed on to teach engineering. Senior Lieutenant Clark of the Navy developed firing mechanisms for mines and depth charges. After World War I, he was employed by the Marine Hardware Company, manufacturers of naval equipment. He also became a speedometer engineer for the Waltham Watch Company. On May 12, 1926, his birthday, Formica Company hired George as a mechanical engineer. Clark became Formica's chief engineer, then vice-president, in charge of building and supervision of plant facilities. He was the "father" of Formica's Evendale, Ohio, laminating plant, the world's largest. George served as president and chairman of the Board of the Society of Plastics Industries. In April, 1956, he retired, but stayed with the company on a consultant basis. Yes, we all will miss our Buddie, for although we have seen very little of him in the last few years, he loyally kept in touch.

We are indebted to Charles Thompson and the Boston Herald as well as the Alumni Office for more sad news. On December 28, 1960, our fire "spark," **William A. Bryant** of Boston, at the age of 70 passed away. He was born in Brookline, graduated from M.I.T. in 1913, and was associated with his father, Henry F. Bryant in engineering. At the time of his death, Bill was serving as assistant to the post engineer at the Boston Army Base. He was a former member of the Boston Society of Civil Engineering, the Brookline Kiwanis Club, and the Tapper Club.



Bryant leaves a wife, Etta M. (Fowler); two daughters, Mrs. Warren W. Fox of Lexington and Mrs. Walter D. Wood of Albuquerque; and a son, William A. Bryant, Jr., of Kingsport, Tenn. Many of us who knew Bill will never forget his wonderful co-operation as our class photographer at many of our reunions. **George Philip Capen**, Secretary and Treasurer, 60 Everett Street, Canton, Mass.

## '14

**Jim Holmes** and his wife have gone on a three-month vacation to visit the Far East. They are scheduled to visit many cities in Japan, and Hong Kong, Bangkok, Singapore, Manila, and then to spend a few weeks in the Hawaiian Islands. It will be recalled that Jim and his associate, Narver, have one of the largest engineer construction businesses of its type on the Pacific Coast. At the end of World War II he was responsible for the reconstruction of a large number of Pacific islands such as Okinawa. . . . **Clarke Atwood** continues to be exceedingly busy running his all-year hotel at Martha's Vineyard. In addition he is keeping his three grandchildren while their parents are spending a year in Ghana, Africa. Clarke again says that any '14er who can stop in and visit him will be very welcome.

**O. C. Hall** has just sent his annual Christmas report telling about his family which includes five very grown up children. All are in college or have graduated. As to O. C. himself, retiring from the Bell System seems to have just increased his activity. For the past few years he has been with the U.S. Instrument Corporation of Charlottesville, Va. Last summer a very extended vacation appears to have taken in most spots in the eastern half of this country, including the St. Lawrence River and nearby Canada.

It is with sincere regret that we note the death on December 15, in Belmont, Mass., of our classmate, **Harold C. Benjamin**. He had recently retired from his company, a stone engraving firm. Benjamin prepared for the Institute at Watertown, Mass., High School. On June 19, 1917, he was married to Helen Lister. She and two daughters and a son survive him.—**Harold B. Richmond**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.; **Charles P. Fiske**, President, Vista Sierra Lodge, 4801 East Broadway, Tucson, Ariz.; **Herman A. Affel**, Assistant Secretary and Class Agent, R.F.D. 2, Oakland, Maine.

## '15

Save Saturday, April 8, for a big Boston Class Dinner, to be held during the Second Century Celebration in Cambridge. Probably many of you will be here for the Second Century meetings, so you'll have a chance to go to our dinner and meet a lot of the Boston crowd. Another small reunion, maybe! Fifty-three

Christmas cards from classmates and friends of 1915 from all over the world warmed our hearts with a deep feeling for these fine old friendships of these many years. From Tapei, Taiwan, The Republic of China (Formosa), **Pellian** and **Wanhwa Mar** sent an exquisite Chinese card with some gaily colored butterflies pressed onto bright mulberry leaves. They're unusual and pretty. The almost perfect symmetry of design and coloring on the wings is most impressive. Their son, Gilbert, M.I.T. '52, is out there now working on a U.S. Government project.

. . . From Paris, **Mary Plummer Rice** wrote: "At last I have put my diploma to good use. It got me into classes at the Sorbonne and Faculte de Medicine of the University of Paris to take courses in psychiatry. Paris is wonderful in the winter as I dreamed it would be and I am loving every minute of the year here. Have a happy holiday season. The class wire in June gave me a real thrill." Best regards and good luck to our Mary. . . . On December 27 at St. Camillus' Church, Arlington, Mass., **Frank** and **Mary Scully's** daughter, Abigail Jane Scully was married to Mr. Robert George Norton of Wivenhoe, Essex and London, England. Gail is a member of the Junior League and Vincent Club in Boston. Mr. Norton graduated from Christ's Hospital in England and is associated with The Knox Educational Services in Jamaica. Mary Scully was charmingly gowned and our old class team quarterback, Frank, looked very proud and spry walking down that aisle. Representatives of our class attending the services and the gay and enjoyable reception later at The Women's City Club on Beacon Street, Boston, were highly pleased. . . . **Phil** and **Helen Alger's** annual Christmas poem foretold the wedding of the last of Phil's children. On December 31, in Evanston, Ill., Andrew Dugald Langdon Alger was married to Frances Lenore Anzalone. To these children of our class go our warm and hearty wishes for long, healthy, happy lives. . . . Maybe the cabalistic signs on **Bert** and **Helen Adams's** card are a necromantic touch from Bert's former work in magic. . . . Good for **Herb** and **Alice Anderson** that Andy has recovered sufficiently for another trip: "Thanks a million for your last letter. The class picture arrived and considering the weather perhaps disguised the fact a few of our classmates are getting older. I am sure you both had a fine trip in the West Indies. With snow deep in our drive I could take the islands today. Don't forget your plan to come down to see us in the spring at least. We go away the end of February."

• **Larry Bailey** wrote: "Everything is all right with me on the last check-up. I'm going in again around February 1. It's nice to sit inside these snowy days and not worry about getting to the office." We're all happy that Larry has recovered. . . . The best answer to **Doug** and **Elizabeth Baker's**: "How about something different next summer instead of chicken?" is that beginning with daiquiris and ending with Elizabeth's homemade blueberry pie (berries from Doug's farm), we'll take her chicken with white

wine sauce any time. We can hardly wait for next summer's visit up there. . . . **Wayne Bradley's** picture of a snowy scene in a pine woods up around his Forty Acres Inn at Pike, N.H. is a reminder of what a lovely place that is to go to in the summertime. . . . **Sam** and **Evelyn Berke** wrote a friendly message about their family, their son John, M.I.T. '58, and daughter Evelyn, who will enter Dobbs next year. At lunch recently with Sam in Boston we discussed his family, hobbies and interests, one of which generously is 1915 and M.I.T. . . . **Henry Daley** had been laid up with bronchial pneumonia, but will be with us at the New York Class Dinner January 27. . . . Thanks to **Jack** (Marshall) **Dalton** for the flattering Christmas card message: "To M.I.T.'s best Class Secretary." They are nice words, Jack. . . . Next month more Christmas card messages and the details of the New York Class Dinner, held January 27 at The Chemist's Club.

In November **Larry Landers** was elected to the Board of Trustees of the Beth Israel Hospital, Boston. This is an outstanding honor for Larry as a reward for his untiring work for this famous Institution. Congratulations, Larry, well done. . . . On November 17 at the Woman's College Club, Ansonia, Conn., **Alan Dana** gave an illustrated talk on "Mayans of Yucatan." Alan visited Yucatan in 1954 and 1955 and the Mayan ruins in El Tazumal, San Andres, Guinigua and Tikal in 1960. Nice going, Alan. . . . **Ed Sullivan** and his sister Anne are planning another (their third) 'round-the-world cruise on the swish "Carenia," leaving New York in January. We'll give you his messages later. . . . With another generous check to **Ben Neal** in December, **Carl Dunn** wrote: "We both enjoyed our reunion this past spring and trust that we may all be spared for the 50th. We are part of a great and growing heritage in M.I.T." . . . The end of the year saw several checks added to Ben's Fiftieth Fund. With his, **Maurice Brandt** wrote: "I was reading your notes in The Review last night and they were very interesting. You did a fine job in getting up our Reunion. Many thanks and congratulations. It was most enjoyable, with the best Season's Greetings to you and Fran." . . . With his, **Bridge Casselman** said: "Thanks for the class picture. I sure enjoyed seeing the old gang again and wish I were close by to see them oftener. I have at least one more year of work before I retire, then what? Have a good Christmas and lucky 1961." I like that "lucky 1961." Many thanks to all these devoted and generous classmates. . . . **Sol Schneider** wrote: "I've received the class picture that was taken at the Reunion last June. Considering that we had a rainy day, the picture was not too bad, although one had to use a little imagination to figure out who is who, in some cases. I have been seeing Andy pretty often, and saw him yesterday for a few minutes at his home. He is very cheerful after what he has gone through and don't be surprised to see him at our Class Dinner in New York next January 27. Of course I am planning to be there so we

shall have a chance to compare notes."  
 . . . **B. Howard Jackson** died in Boulder, Colo. on August 26, 1959. . . . The spirit of the holidays and these fine old class friendships leave me gently reminding you to pay your class dues. It's only a little and only every two years but it's a big "Help to Azel."—**Azel W. Mack**, Class Secretary, 100 Memorial Drive, Cambridge 42, Mass.

## '16

Once again a reminder: Save the dates of the 9th, 10th and 11th of June for the 45th Reunion at Osterville on Cape Cod. **Steve Brophy** says that, from all indications, the attendance will be one of the best ever. So don't miss the 45th!

**Duke Wellington** writes from White Plains that early in November he started spending a little time with the Excelsior Plimtruck Co., Inc., of Stamford (Materials Handling Equipment since 1887), helping it to get on its feet, and that this is fast becoming a fulltime job. The company now is a subsidiary of the Pantex Manufacturing Company. Duke says he spends his summers in Yarmouth, Maine, only a short way from East Harpswell where **Charlie Woolley** is located, so perhaps they can team up next June in coming down to the reunion. He says if any '16'er is near Yarmouth in the summer and wants to see some "simple living," just ask almost anyone there how to reach him. . . . **Earl Townsend** tells about meeting **Ralph** and **Sibyl Fletcher** in Louiseville, Quebec, when they were returning from a duck-shooting exhibition in the province. They had a nice break-fast time chat in the hotel dining room before Earl had to dash off for business. It was the first time their paths had crossed since the 40th reunion. Earl is still active with the Factory Mutual Engineering Division but retirement time "is just around the corner." He says his children are long since beyond the college age but his eldest granddaughter entered college this fall, "a reminder that time is fleeting." Earl is coming to the reunion in June.

**Shatswell Ober** writes that his activities as a semi-retired professor are so much less exciting than those of our far-traveling classmates that he feels reluctant to write of them. But he should remember that he carries us back to—almost—Boylston Street when he writes of things at the 'Stute. Partly necessity and partly inclination keep him close to M.I.T. where he still has some teaching and other pleasant student contacts. He says: "My daughter says that now I am 'retired' I leave home at 20 minutes before nine instead of 20 minutes past eight. Recently at a luncheon of emeriti Professors, I chatted briefly with two other '16 men, **Steve Simpson** and **Charles Wareham**, both of whom have been in the Chemistry Department of M.I.T. since graduation (though the latter received his S.B. in Sanitary Engineering) and are now emeritus." . . . **Lev Lawrason** (who is '16 as far as we are concerned even though the Alumni Register

gives him some other old numerals) attended a cocktail party in Pasadena, we hear, in December. Hosts were **Dick Hunneman's** daughter, Ann, and her M.I.T. husband, Elliott Cutting, '51, space scientist.

**Henry Shepard** is still active as a manufacturer's representative and covered over 30,000 miles last year calling on his customers. He says lately he is beginning to realize that one can't keep this up much longer, so he is seriously thinking of calling it a day and joining the "unemployed" classmates. "The trouble is that I enjoy my work and hate to give it up." He is making slow progress on his 1910 Cadillac for everything he has taken apart has had to be rebuilt. He says: "It has been the hardest restoration that I have tackled so far. It took me six months to find a cylinder to replace one that was cracked. After two years I was able to get an original radiator cap from down in Texas to take the place of one which did not fit, and so it goes. It should be finished and on the road next spring. My 1914 Stanley is laid up as the boiler finally gave out and the man who can make another one for me had a bad heart attack last spring and has not been able to do any heavy work since. He is now somewhat better and will possibly finish a boiler for me by next summer." Henry says their three children are married and so far he has four grandchildren, all living fairly nearby. Their oldest boy is a lawyer in Boston, the youngest boy teaches Mechanical Engineering at M.I.T., where he is working on his doctorate, and their daughter is married to a Yale graduate who is administrative officer of the Earth Satellite Tracking Program at the Smithsonian Observatory in Cambridge. "Never a dull moment on family get-togethers." Henry had just called on the **Don Websters** and found them comfortably fixed in Falmouth.

**Rudolf Gruber** was in Europe in September and October for the second time in 1960. The second trip was "in reverse" to make use of the fall season, i.e., they began in Hamburg and ended up in Naples. The main reason was again to visit his two brothers and three sisters who live on the Continent. He notes that as one entering the "70-year bracket" there is some eagerness to see the "old folks" and also to become acquainted with the numerous off-spring. "It is very interesting to observe and study the 'attitude' of European youth. Many of them don't even remember the two World Wars! From my observations especially in Germany and Italy, the appreciation of and respect for things 'American' has not declined. International student exchange is a very important feature and much appreciated." His routing was: Jet to London, Viscount to Hamburg, then Cologne, Frankfurt, Munich; a very fine motor-trip to Innsbruck, then to Lake Constance and Freiburg (in the Black Forest); a visit to his brother in Naples, then back via Rome and Paris by jet. Rudolf is putting "Osterville" on his calendar and expects things will work out. . . . **Dave Patten** writes from South Duxbury that he was in Michigan for part of last summer and in Texas in No-

vember but as he says, "in this jet age these places are only a few hours away." Donna gave him a few jolts, with the wind hitting over 100 mph at the corner of his beach house. However, "the old saying about the ill wind proves correct in that repairs are often postponed until revealed thusly by the Almighty. As for the 1666 Standish House, a major roof job of new stringers and boarding was necessary there before laying a white cedar final outer cloak which should be good for the rest of our lives. White cedar not only weathers well but turns gray instead of the black taken on by the red variety." We understand that Standish House, built in 1666 by Alexander Standish for his bride Sarah Alden, has been in Dave's family for many years, possibly since 1870. Since the war and Dave's ECA job in Portugal and Spain (1951), they have fixed up the old house into a comfortable year-round spot and "love it, especially in the fall." Dave says further that Mayflower II and Plymouth foundation had good attendance for the past tourist season, with some 2000 visitors daily at the ship during July and August, and slightly less at the Pilgrim Village. Further: "This, if you haven't visited it, is on the Hornblower Estate about a mile below the town. The property was left to us by Mrs. Hornblower, Senior, and provided the only suitable area, especially in size, where we could erect a full-scale duplicate of the original stockade and the first nineteen houses enclosed therein, together with their herb gardens, a small plot for Indian corn and a sawpit. . . . Educationally, I think we have one of the basic and most inspiring 'pages' of our great American heritage to display graphically and by every other way, to young and old alike." Dave convinces us that we just must visit there.

**Clint Carpenter** writes from Norfolk. Says there's nothing of interest to report. He has been getting along well since his five months' enforced inactivity a year ago. Said he was not so well pleased with the national political picture but was glad Virginia went Republican. Also he was glad that Republican John Volpe was elected Governor of Massachusetts. Clint saw him in Phoenix in October at the AGC (Associated General Contractors of America). Governor Volpe is president of AGC. . . . **Paul Duff**, who will answer requests if pressed hard enough, sent a couple of snapshots taken at a beach party, part of a gathering for his and Mrs. Duff's 35th wedding anniversary. Paul wears a "1916" football sweater, the original awarded to our class in 1914. Paul says this sweater has a little history in the Duff saga. "Each of the six Duff boys who attended St. John's Prep has worn it to school. It became such a red flag to the bulls (teachers) that they threatened to expel the next one who wore it." They had 15 grandchildren at their reunion "and only about half of my nine children are married. Tell Hovey (who has 20) to watch out. But don't threaten Ralph with any contest." Paul says the Duffs will be there at the reunion in June.

Back in September, we believe, **Val Ellicott** (M.D., Dr. P.H.) who is chief of



the Bureau of Medical Services and Hospitals, Maryland State Department of Health in Baltimore, received his Forty-year Anniversary Certificate of American Public Health Association Membership. Val started his education at Princeton but says that after two years he happened to hear about a public health course under Professor Sedgwick at M.I.T. He transferred and came under the influence of "this inspiring public health leader." During a summer job, he was urged by Dr. John Fulton, Secretary of the Maryland Health Department, to study medicine as a foundation for a public health career. After six more years, four at Johns Hopkins Medical School, one at the Johns Hopkins School of Hygiene and Public Health, and one as an intern at the Willard Parkes Hospital for Contagious Diseases in New York City, he joined the New York State Department of Health and "had the good fortune of working under Dr. Edward S. Godfrey, Jr., as epidemiologist." Following this he went back to his home town in the Baltimore City Health Department, and then became Health Officer of Montgomery County, Maryland, a pioneer job in a unique community. There he carried out his principal and most enjoyable life work. "Beginning with a staff of six the health program of this county steadily grew and broadened. Community interest was strong, voluntary organizations were active and worked harmoniously with official bodies and a unique group, the Public Health Lay Council, was established. The American Public Health Association gave helpful advice especially, in 1940, through a visit of Dr. Carl Buck. When I left in 1954 the Health Department staff was over 100." His present position gave him an opportunity to return to Baltimore and develop a network of state-wide programs of medical care and hospital services which, in Maryland, are administered by State and Local Health Departments. He says he finds it a privilege "to be associated with the capable and congenial public health leaders who are administering the State Health Department."

**Francis Stern**, when he is not winter-visiting in California, has an office in Hartford which he has kept since his retirement, for in addition to his own affairs, he acts in an advisory capacity as investment counselor. It is apparently a very comfortable and nice office, "completely equipped with a little kitchenette and my 'right arm' who was with me all the time I was with Stern & Co., over a period of more years than either of us want to talk about, and who has turned out to be a pretty good cook as far as lunch is concerned. So you see, the latch string is out to any of our classmates coming through Hartford and we need very little notice in order to cook up a completely non-fattening lunch for those on a diet like myself, or with a little more notice, a more satisfactory lunch for those who would like something heartier." . . . Every once in a while **Joel** and **Mrs. Connolly** send out a circular letter from the Orient. The most recent "Letter from China" came in November, and we were pleased to con-

tinue on their list. The current letter starts off with a picture of them in their living room in Taiwan. They live in a Japanese style house, one built during the Japanese occupation of Taiwan (1895-1945), and have Chinese neighbors on every side, finding this environment more interesting than that of American neighborhoods (preferred for those who have children). Joel's job, as a sanitary engineer with the International Cooperation Administration (ICA) is to improve health through better sanitation. He advises senior engineers, waterworks men and sanitarians and helps train junior members of the Chinese Provincial Bureau of Public Works and the Institute of Environmental Sanitation. The latter is an official body like one of our state health departments, and is one that Joel was largely responsible for starting. Much of his work centers on providing safe drinking water, and on making sure the U.S. funds are effectively and properly used. This year he is second vice president of the Taipei Rotary Club, and vice president of the M.I.T. Club of Taiwan. In a previous issue, we reported on their trip around the world in 1953-59. Because of fighting at Quemoy, Mrs. Connolly was not permitted to return with Joel, she had to follow some eight months later.

**Earle Pearson** breaks into the column, too, from down in Florida. In October '59, he reached the age where, he says, "old horses are put out to pasture," after 36 years with B. F. Goodrich Footwear and Flooring Company in Watertown. It was "to escape the rigors of New England winters as well as the unfavorable-to-pensioners climate of the Massachusetts economy," that he and his wife established a new permanent home in Vero Beach. This is called "The Beginning of the Tropics," far enough north of Miami to be free of the "hustle and bustle of the Gold Coast life," but far enough south to have temperatures in the 70's and 80's throughout the year. He says: "Our first year here has been most enjoyable, and proof that we have become Floridians lies in the fact that we cast our votes here on November 8, and you notice that Florida went Republican. We find retirement in Florida relaxing, or full of activity, whichever way one wants it. We have bathing, boating, fishing, and golf all the year round. We also have twenty-two churches to choose from and all kinds of clubs for social activities." He keeps in trim mostly by working around their grounds, maintaining the lawn and many garden plots. They have made a number of trips around Florida, usually visiting other BFG "Senior Citizens." They plan to make two long trips yearly, one this last year was to Massachusetts, one next year may be to California. An annual visit to Akron is likely, where their daughter and four grandchildren live. The oldest, 14, is an accomplished horsewoman, and proudly exhibits the many ribbons she has won at horseshows with her Palomino "Pal," and: "Naturally, Gramp is interested in seeing her ride in some of these shows."

**Howard Hands** writes from Clearwater, Fla., where they moved in Sep-

tember following nearly a year of settling all sorts of things following retirement, including the disposing of their house in Wellesley, their summer cottage in New Hampshire and especially of all the accumulations in both "thereins." But now they are all set, and find Florida living very different from that up North. "You have to learn how to live all over again." He notes that he may be tempted to gloat just a little bit maybe, over what he already calls "you Yankees" when he reads about snow, ice and cold weather. They do plan to go North for the "nice summer months" and expect to be at the 45th in June. Their son Richard and his wife "came through with a son" a year ago, after three girls, and the young parents (to say nothing of the grandparents) are in a seventh heaven.

This concludes the column for the current month. But we can't close without an expression of great appreciation to the many who telephoned or visited or sent letters and cards to your secretary when he had a two weeks' stay in December in the New York Hospital; to **Ralph Fletcher** and **Bob O'Brien** and **Jimmie Evans** who probably stirred up all the mail; to **Len** and **Dolly Stone** who drove me home; and to everyone who has been so kind! What a bunch! Finally, remember those reunion dates: June 9, 10, and 11. Bring your wife if you can, but be sure to come anyway. To keep the column full and interesting, write, even for the slightest reason.—**Harold F. Dodge**, Secretary, 96 Briarcliff Road, Mountain Lakes, N.J.; **Ralph A. Fletcher**, President, P.O. Box 71, West Chelmsford.

## '17

The statistically minded members of the class may be interested in knowing that the peak load of those passing the magical age of 65 occurred in 1960, numbering about 80 plus. In 1961 the number will fall to between 20 and 30, and in 1962 the number can probably be counted on the fingers of one's hands. How will such a reservoir of talent occupy itself?

**Frank Peacock** advises us from Wilmette, Ill., that although eligible for membership in the "65 Club" he is making no changes in business routines. He writes: "I am doing considerable work outside of my current employment, which I am dropping this year. I am assistant to Mr. Greeley of Greeley and Hansen, Sanitary Engineers, and also am on the consulting board for the Volta River Project in Ghana (Hydro-Electric), on a consulting board for a new project out West, and, in addition I am building a special type incinerator of my own design. All told, I am having fun." . . . **George Spear**, who is associated with Gilfillan Brothers in Los Angeles, specializing in sound and radar work, informs us that he did not retire last November when reaching the age of 65. He states: "My present work with Gilfillan in the Packaging Group is interesting, but not as stimulating as analyzing missile flights on a contract which has ex-

pired. I now have a month's vacation and may get back East next year."

Recent news articles reported the death of Vice Adm. **W. Mack Angas** on December 12, 1960. The following is quoted: "Vice Adm. William Mack Angas (U.S. Navy ret.) former commander of the 7th Fleet's Seabees and chairman of Princeton University's Department of Civil Engineering since 1950, died of a heart attack in his home. He was 68. In 1943, he was ordered to the staff of the commander, 7th Fleet, in Brisbane, Australia. He was instrumental in establishing bases in Northern Australia, New Guinea and adjacent islands. Awarded the Legion of Merit in May 1945 by Gen. Douglas MacArthur, Adm. Angas was on the staffs of the commander-in-chief, U.S. Atlantic Fleet, and of the commander, Eastern Sea Frontier. He was director of the Atlantic Division of the Navy's Bureau of Yards and Docks when he retired in 1950 to accept the Princeton post."

The monthly class luncheon at the M.I.T. Club of New York in early December brought out some new faces. Those present were General **Groves**, Admiral **Sullivan**, **Erl Stockmann**, **Ray Brooks**, **Dick Loengard**, **Al Morton**, **Joe Littlefield** and the M.C., **Dix Proctor**. . . . **Ray Blanchard** has been re-elected president of the Associated Industries of Massachusetts. . . . Don't wait until your obituary appears in the class notes to give the secretary news of yourself and family. When a VIP member of the class donates something for the class notes which is, perhaps, symbolic of the age group in which class members find themselves, it calls for publication. Here it is: "Two 1917 men were overheard discussing the effect of their advanced age on memory and other matters, and were reminiscing generally. One turned to the other, snapped his fingers, and said 'Oh, and do you remember how we used to chase the girls?' The other beamed and said, 'Ah, most certainly I remember—but for the life of me I cannot remember why.'"—**W. I. McNeill**, Secretary, 107 Wood Pond Road, West Hartford 7, Connecticut; **Stanley C. Dunning**, Assistant Secretary, 1572 Massachusetts Avenue, Cambridge 38, Mass.

## '18

The true wealth of nations and of individuals is a free spirit, for nobody ever does anything well in terms of his abilities unless he is a free spirit. Our class had its share, conspicuous among them being **Theodore P. Wright** who last June retired as vice-president for research at Cornell University. The summer issue of *Perspective*, the Cornell aeronautical laboratory publication, has a nice article from which I quote: "An illustrious career in the field of aviation, spanning more than 40 years, drew to a close on July 1, 1960, when Dr. Theodore P. Wright retired as vice president for research of Cornell University. While Dr. Wright has relinquished that post, he is still Chairman of the Board of Cornell

Aeronautical Laboratory, a post he has held since the laboratory was established. Dr. Wright joined Cornell University in 1948 and has held a variety of administrative positions. While his principal position has been vice president in charge of research, he also has served as president and chairman of the board of CAL, and as president of the Cornell Research Foundation. Under his supervision the volume of sponsored research at the university rose from \$9,000,000 in 1948 to more than \$34,000,000 during the last fiscal year. Aviation has been Dr. Wright's life work and a perfect airplane his life dream. His first contact with this field was in 1917 when he joined the U.S. Naval Reserve Flying Corps as a lieutenant. He made his first solo flight three years later on January 4, 1920. During his time in the Navy he was assigned the job of Chief Inspector of the Navy's NC4 flying boats which made the first transatlantic flight.

"With the Curtiss Aeroplane and Motor Company Dr. Wright started out as assistant chief engineer and his rise to a position of importance in this company was indicative of his ability and ambition. In less than ten years Dr. Wright was named chairman of the Engineering Planning and Policy Committee and general manager and chief engineer of the Airplane Division of the Curtiss-Wright Corp., the successor company. In this capacity he led the development of metal propellers and sponsored development of the electrical controllable-pitch, full-feathering propeller, which played an important role in the growth of aviation. Dr. Wright did not ignore the safety aspect of aviation. In this area, he distinguished himself as an authority with the development of the Curtiss 'Tanager,' which won the \$100,000 prize offered in the Daniel Guggenheim safe aircraft competition in 1929. He received the Wright Brothers Medal for his paper, 'The Tanager—A Safe Airplane.' Other aircraft developed by Curtiss while Dr. Wright was associated with it were: The Hawk, Falcon, Helldiver, Shrike and Condor for the military; the Robin, Fledgling, Kingbird and Commercial Condor for civil use; and a series of Pulitzer and Schneider Cup race winners. Dr. Wright's experience at Curtiss-Wright led to his being called to Washington, D.C., in 1940 as a consultant to the head of the National Defense Advisory Commission. During the Second World War he was named assistant head of the Aircraft Section of the Office of Production Management and after this agency became the War Production Board, Dr. Wright organized the Aircraft Resources Control office and became its director. He was also named as a member of the five-man Aircraft Production Board. Under his direction aircraft production reached the record rate of some 100,000 planes a year by 1944. He served as a member of the NACA from 1940 to 1953 and was chairman of its Aerodynamics Committee during most of that time. During World War II Dr. Wright headed two official missions to England. The first, in 1942, was a civilian group studying production, and the sec-

ond, in 1944, was a military officer group dealing with design and engineering.

"The War Department's highest honor to civilians, the Medal and Commendation for Exceptional Civilian Service, was awarded him after the results of the work to which he contributed were spelled out in the air offensive against Germany, the invasion of Europe and the conclusion of the war against Germany and Japan. He also received the Presidential Medal for Merit in 1945, and in the same year, the Daniel Guggenheim Medal for outstanding contributions to aeronautics. He was appointed by the president as administrator of Civil Aeronautics in 1944. He also served as technical secretary of the International Civil Aviation Conference in Chicago the same year. At this convention a set of rules governing all aspects of world air transportation was developed and adopted by the world delegates from 53 nations. Dr. Wright was chosen as Aviation Director of the U.S. Strategic Bombing Survey which studied the results of the 8th Air Force's strategic bombing of Europe in 1945. For his 'especially meritorious achievement' in connection with this work he was awarded the U.S. World War II Medal of Freedom. Dr. Wright, during the same year, also delivered the Wilbur Wright Memorial Lecture before the Royal Aeronautical Society in London and was made an Honorary Fellow of the Society. He is also an Honorary Fellow of the Institute of the Aeronautical Sciences."

In a personal letter to the proprietor of this column Dr. Wright says, "Although retired, I seem to have kept on quite a lot of things and seem to be as busy as ever. I have a couple of consulting jobs; am a trustee of Associated Universities, Inc., and the Sloan-Kettering Institute for Cancer Research; and chairman of the board of the Cornell Aeronautical Laboratory and, in addition, am keeping up my interest in aviation safety matters. Also, I am a member of the Board of Awards for the Elmer A. Sperry Award and the Hill Space Award under the Institute of the Aeronautical Sciences."

From the widow of **Albert Haertlein** came a gentle Christmas greeting and further word about her husband who was another free soul who gave, perhaps too freely, of himself. She says, "Albert had a busy and interesting year. In August, 1959, Mr. William Larkin presented him with the Distinguished Service Certificate from the National Council of State Boards of Engineering Examiners at their meeting in Roanoke, Va. In February, 1960, he was presented by the Engineering Societies of New England with a special Award of Merit in recognition of his long and outstanding service to the engineering profession. We had also made several trips to smaller colleges, as he gave much time to aiding younger colleges with their curricula to improve engineering education. He planned to do further work in this line, working to improve teaching methods, and also to write, after his retirement, which would have been in 1962. He felt the most important part of a college is a good teacher, and that a good teacher must



always be a good student. He loved his teaching and engineering professions, his Harvard and M.I.T. associations, and especially people, and always had time to help those who needed him. He was happy that so many of his former students remembered him throughout the years, and that so many of them hold important positions in business and teaching, all over the world, and are successful in their work. His office at Pierce was crowded by his many books. He had dreams of a Science Library at Harvard some day, and his books were used by many faculty and students. His collection is now broken up—the rare books will be put in special cases—Harvard and Northeastern University have taken what books they wish, and many cases of reports, bulletins, etc., are being sent to the Scientific Library at Skokie, Ill. Harvard will exchange and distribute those they cannot use to colleges throughout the world, so the books will continue to help educate many to make the world a little better for all. He had been well for several years; overworked as always, but that was normal for him. On Tuesday, June 7, he was in his office as usual at 7 A.M., and by 9 A.M. had already done much work. As he finished posting the final grades of his students, he died of a broken heart, caused by an emotional impact. I am staying here in Watertown, alone and lonely, missing him so much. John lives in Westfield, N.J., with five children, Jim in Dallas, Texas, with three children, and I will be with Jim for Christmas.”

Another greeting comes from **Donald Merrill's** widow who says, “David was married in June and they are building a house in Plainville, Conn. He enjoys his teaching at the New Britain Teacher's College. Judy now has three children and lives in Winchester, Mass. As you can see by our Christmas card, Elizabeth, Janise, and I have moved to the outskirts of Lancaster, Mass., to a darling little one-story modern house we enjoy very much.” . . . So, on this snowy night, a happy New Year to all free souls.—**F. Alexander Magoun**, Secretary, Jaffrey Center, New Hampshire.

## '19

At the monthly 1919 class luncheon at the M.I.T. Club of New York on January 6, there were five of us present: Gilbert, Flynn, Paterson, Strobbridge and myself. **Ralph Gilbert** is retiring in a few months and plans to spend considerable time at his cottage near Jones Beach, Long Island. . . . **Jim Strobbridge's** lithographing company has been sold to the H. S. Crocker Co., Inc. Jim is vice-president of the new company and seems to be very happy with his new arrangement. The company has offices at 11 West 24th Street. . . . **Doc Balfour** is out of the country on some of his population studies. . . . **Leo Kelley** was unable to attend the luncheon as he is very busy on some of his electronics patent cases.

The Class of 1919 is working hard for the Second Century Fund. A note from

Chicago tells us that **Benjamin H. Sherman** is the area chairman in that district, and **Earl P. Stevenson** is chairman of the Massachusetts Business and Industry Committee.—**Eugene R. Smoley**, Secretary, 30 School Lane, Scarsdale, N.Y.

## '20

Through the kindness of Louis Marcken of Lavre, Belgium, we have word of the death of **Paul Heymans**. Paul was at one time a professor at the University of Ghent and was engaged in a number of industrial and financial enterprises in Belgium. He was also active in government affairs and was Commissioner General at the Brussels International Exposition.

**Carlton Rowen** of Marblehead was recently tendered a testimonial retirement banquet by more than 150 of his friends and associates at the United Shoe Machinery Corp. Carlton was a section head and held several staff positions on committees for management planning. . . . Welcome Christmas greetings were received from Caroline and **Bob Sumwalt** of Columbia, S. C., where Bob is president of the University, and of course from my faithful friends Denise and **K. B. White**, their card featuring a very handsome color reproduction of the Chateau D'Arthes, built in 1430.

In case any of you are minded to drop in on your old secretary for a handshake or with a bit of news, my office address is now 330 Stuart Street, Boston, the Salada Tea Building, and the phone number is Liberty 2-7471. The name of my company is Culver Advertising, Inc., and Walter B. Snow & Staff.—**Harold Bugbee**, Secretary, 7 Dartmouth Street, Winchester, Mass.

## '21



Only three months to our big Fortieth Reunion! Here are the first returns from the Class in reply to the initial mailing from **Mel Jenney's** Reunion Committee. Answers are coming in fast and we'll list them as received. Hope your name is here along with those of your course mates and fraternity brothers. If not, call them up and send in your collective replies at once to ensure accommodations on June 9 through 11 at the Hotel Mayflower, Manomet Point, Plymouth, Mass., and in Boston for the M.I.T. Centennial Alumni Day on campus in Cambridge on June 12. Better act now and make certain you won't miss this unusual opportunity to visit with your many friends in the class and their wives, in the relaxing vacation surroundings of a well-appointed hotel and shore club that affords the best in food and comfort as well as facilities for all sports and a wealth of beautiful historic spots to visit nearby. The added attractions of Alumni Day, marking this hundredth anniversary year of Technology, will be worth the trip by themselves. Send in your indication of attendance right away or contact Mel at the address below for additional information. Appli-

cations for Alumni Day tickets should be sent direct to M.I.T. on the forms which will be mailed to you on application to the Alumni Association with your return of the usual spring ballot.

The following members of the Class now plan to attend the reunion, per these first returns, and most of them say they will be accompanied by their wives: Fred Adams, Wally Adams, Ollie Bardes, Mich Bawden, Cac Clarke, Phil Coffin, Asher Cohen, Jim Cudworth, Ed Delany, Chuck Dubé, Bob Felsenthal, Lu Goff, Roy Green, Judge Greene, Phil Hatch, Munnie Hawes, Sumner Hayward, Jack Healy, San Hill, Norm Insley, Irv Jakobson, Mel Jenney, Herb Kaufmann, Jack Kendall, Chick Knight, Chick Kurth, Moose LeFevre, Ivan Lawrence, Sam Lunden, Harry Meyers, Bob Miller, Buddie Morrell, Dick Morris, Carl Morss, Phil Nelles, Warrie Norton, Eddie Noyes, George Owens, Larc Randall, Ed Richardson, Larry Richardson, Paul Rutherford, Ray St. Laurent, George Schnitzler, Rufe Shaw, Slivers Silverstein, Dick Spitz, Ted Steffian, Harold Stose, Hank Taintor, Vivi Valdés, Al Wason, Bob Waterman, Jeff Wilson.

Probable attenders at the April 8 gathering during the M.I.T. Centennial Week for cocktails and dinner include: Fred Adams, Bardes, Bawden, Delany, Dubé, Hayward, Insley, Jakobson, Jenney, Kurth, LeFevre, Nelles, Norton, Larry Richardson, Randall, St. Laurent, Shaw, Steffian, Stose and Wilson.

**Ernest R. Gordon** is back from a stay in Brazil and says his address is 8841 Jupiter Drive, El Paso, Texas. . . . **William C. Kohl** sports the new address of P.O. Box 53-171, Miami Shores, Fla., which, we surmise, indicates that retirement has accompanied his move from North Sutton, N.H. . . . **Gustav C. Dahl** is celebrating these many years as a member of the engineering staff of Jackson and Moreland, Boston, currently as a project manager. . . . **John W. Barriger, 3rd**, President of the Pittsburgh and Lake Erie Railroad, gives his business address as P. and L.E. Terminal, Pittsburgh 19, Penna. . . . **David J. Baker** has left Indianapolis for a new home in Brighton, Mass. . . . **Miss Dorothy G. Bell** is the business librarian at the Providence, R.I., Public Library. . . . In accordance with standard procedures of the Alumni Association, the following have been removed from the Class roster. If you know the current address for any of these fellows, please forward it to your Secretary promptly: **Ko-Chi Chang, Oscar R. Duyos, James B. Ormon, Marshall E. Pridmore, Rosimond M. Raphael** and **Sidney Turkel**.

Always a source of much personal satisfaction to Maxine and your Secretary are the many fine holiday greetings and warm notes which add to much to our own family gathering at the time these notes are in preparation. Brightening the wall behind the tree are colorful cards from Elizabeth and Jack Barriger, Ednah Blanchard, Mary and Larry Buckner, Ethel Burckett, Hilda and Manuel Cadenas, '45, Edna and Phil Coffin, Sarita and Gonzalo Docal, '44, Maida and Chick Dubé, Janet and Everett Farmer, '23, Catharine and Harry Field, Alex and

Munnie Hawes, Betty and Sumner Hayward, Betty and Dug Jackson, Chick Kane, '24, Marge and Jack Kendall, Marjorie and Jack Kriz, '41, Laura and Chick Kurth, Moose LeFevre, Milicent and Joe Maxfield, '10, Helen and Bob Miller, Muriel and George Owens, Graciela and Helier Rodriguez, Wallie Ross, Helen and Ray St. Laurent, Helen and Lem Tremaine, '23, Louise and Carlton Tucker, '18, India and Dave Woodbury.

Assistant Class Secretary **Ted Steffian** has announced the closing of the offices of Edwin T. Steffian, Architect, and the formation, as of January 1, 1961, of the firm of Larsen, Steffian, Bradley and Hibbard for the general practice of architecture. The new firm is located at 711 Boylston Street, Boston 16, Mass. Pete Larsen was a Rotch scholar and taught architecture at the Institute. John F. Bradley is M.I.T. '32. Ted is President of the Boston Society of Architects, which has now been combined with the State Association. His two sons are both practicing architecture in Philadelphia. Younger son, Peter, was married last September. Ted promises to reveal for these columns next month some of the program details which the Reunion Committee has scheduled for our pleasure next June.

**Arthur W. Skilling** has been named manager of Socony Mobil Oil Company's corporate real estate department, at the company's New York City headquarters. Formerly manager of the analysis and controls department, Art joined Socony in 1932 as an appraiser in the real estate department and has since been manager of marketing analysis and manager of market research and analysis. Art lives in Greenwich, Conn., and says he expects to be with us in June. His two daughters are married and there are six grandchildren.

After 37 years with Public Service Electric and Gas Company, Newark, N.J., **Ralph S. Wetsten** has retired. He has specialized in the development, standardization and maintenance of distribution transformers and street lighting equipment. As the head of the street lighting department since 1948, he has been in charge of design, operation and maintenance. While you read this, the thirteenth annual Fiesta of the M.I.T. Club of Mexico City will be getting under way on March 9, with Dr. **Manuel Sandoval Vallarta** and **Viviano Valdés** among the Club's counselors for this yearly celebration. The advance notices indicate that **Jack Barriger** and **Ray St. Laurent** may be in attendance. **Art Turner**, who attended last year's Fiesta with the 1921 Reunion group, has written Ray that he and Molly plan to attend our fortieth in June. He says he spent six weeks in Japan last summer.

**Ed Farrand** and **Larc Randall**, our active and efficient Class Agents, may well be proud of your appreciation of their efforts, as evidenced by your generous giving to the Amity Fund. The report you recently received shows that the Class of 1921 gave the fifth largest amount of the 68 class groups reporting in 1960. Our total giving for the 20 years the Fund has been in existence is the 14th largest amount of the 63 class groups reporting.

Sincere thanks to a devoted Class and to those hard-working agents. **Ethel Burckett** writes that her daughter, Gail, had a baby boy last December, the first grandchild of the late **Max Burckett**. **Phil** and **Edna Coffin** say they now have 11 grandchildren and two more enroute.

A long message from **Jack** and **Marge Kendall** says they enjoyed having **Ray** and **Helen St. Laurent** visit them in California. They are planning to see many friends in the east when they attend our reunion. Jack continues to travel a great deal for Bekins Van Lines, who are expanding to Boston, Detroit, Atlanta, Washington and New Jersey. He is still active in the management of the Tournament of Roses. Besides her gardening, Marge is becoming an accomplished performer on the electric organ. A new member was added to the family last year when Kathleen was born to Angela and Bob in their Volkswagen during a frantic effort to reach the hospital in time. All 11 of the family were together at Thanksgiving. Janet and **Everett Farmer** '23, who was originally with our Class, are back in good health after his heart attack and her mastoid operation. He has been honored in being made a Fellow of the A.I.E.E.

**Merrill A. Youtz** wrote Ray that he is officially retired but doing consulting work for Battelle Memorial Institute, Columbus, Ohio, and he expects to attend the reunion. He planned to take an extensive tour of the southwest this past winter and will spend the summer at his cottage in Three Lakes, Wis. He has four children, two of them married, and five grandchildren. An interesting letter from **Wallie Ross**, still secretary of the T.C.A. Advisory Board, recalls the day in 1919 when **Ray St. Laurent** and your Secretary had the pleasure of being the first undergraduates to welcome him to Technology. Via **George Chutter** comes a whopping big travelogue in umpteen closely typed pages, written by **Rufe Shaw**. A trip to Europe last year—France, Italy, Switzerland, Germany and Austria—which Rufe and Madeline made with their nephew and his parents, is described in that typical Shavian wit that makes mirthful mountains out of motley minutiae. We'll try to excerpt it in the months which follow if the Review will allot the space. Thanks, George and Rufe.

Just in under the wire is a note from **Dave Woodbury** saying, in part: "We are shoving off for Hawaii in a few days and I will write you from the Islands, where for six weeks we will be with our son, Pete, who is in the Navy. It's to be no vacation for me. I have a full-dress book to do for Viking Press on the Ice Ages; this will be a good place to write it. There are to be some more of the 'Granpa' stories like the one the Reader's Digest ran in the January issue." The Digest story Dave mentions is an original one for that magazine, entitled "Granpa and the Trolley Car." For sheer human interest, a homey heartwarming style and a Boston background you will recognize as being not far from Ted Steffian's new office address on Boylston Street, get out that January issue and read Dave's opus.

We sorrowfully report the death on December 7, 1960, of **Lawrence Drake**

of East Weymouth, Mass., and extend sincerest sympathy to his family. Born on February 7, 1900, in Concord, N. H., Larry prepared for Technology at Arlington High School and was graduated with us in Course II. At the Institute, he was a member of the Aero Society and the Mechanical Engineering Society. In World War I, he was a private in the S. A. T. C. He joined the Stone and Webster Engineering Corporation and was engaged in building services and refrigeration for industrial plants. He later became a consulting engineer on industrial refrigeration and air conditioning. For many years, he was Chief of the Climatic Chamber and Air Conditioning Branch of the U. S. Army Quartermaster Corps Research and Development Command Post Engineer Center at Natick, Mass., engaged in climatic simulation of test facilities. He was a member of the Society of Professional Engineers, the American Society of Refrigeration Engineers and variously chairman of the program, membership and nominating committees of its Boston section. A widower, he is survived by two daughters.

Reminder: Send in that reunion questionnaire right now. Contact neighboring members of the Class and others whom you would like to see in June and arrange for them to be there, too. By all means, bring your wife and any others of your family to join the party. The dates are June 9, 10 and 11 at the Hotel Mayflower, Manomet Point, Plymouth, Mass., and June 12 at the Centennial Alumni Day on campus in Cambridge. Let any of us know if you need further information. We all hope to see you in June.—**Carole A. Clarke**, Class Secretary, International Electric Corporation, Route 17 and Garden State Parkway, Paramus, N. J.; **Edwin T. Steffian**, Assistant Class Secretary, Larsen, Steffian, Bradley and Hibbard, 711 Boylston Street, Boston 16, Mass.; **Melvin R. Jenney**, Class Fortieth Reunion Chairman, Kenway, Jenney and Hildreth, 24 School Street, Boston 8, Mass.

## '22

It seems difficult to contemplate going South on this beautiful day in Buffalo, but your secretary has a date later in the month in Jamaica. . . . **Frank Kurtz** has sent his family-information Christmas card again, welcoming all members of '22 to 734 N.W. Ninth Street, Delray Beach, Fla. He is still boasting of lovely granddaughters in Detroit and Milwaukee. Frank enclosed a clipping telling of the sudden death of **Charles G. Rudderham**, XV, of Clearwater Beach. Charles had been associated with Sears Roebuck and allied stores before going to Clearwater to open his own stores. Our sympathy goes to his family.

**Colonel Clinton B. F. Brill** (U.S. Army Reserve, retired), well-known authority on turnpikes, thruways, highways, bridges and urban arterials, has assumed the presidency of Brill Engineering Corporation, 220 Church Street, New York City. The new organization merges the interests of Colonel Brill and Franklin Engineering



Corporation, formerly a wholly owned subsidiary of Burns and Roe, Inc. This New York consulting engineering firm is currently celebrating its 25th anniversary. From 1957 until early 1960, Colonel Brill was chairman of the New York State Thruway Authority with responsibility for construction, operation, and maintenance of the 559-mile toll highway. In addition, during the last nine years, he has had complete charge of such major projects as 20 miles of the New Jersey Turnpike, and supervising construction on 15 miles of New Jersey's Garden State Parkway.

... **Oscar Horowitz** of Newton, Mass., writes that he is spending February driving to Mexico City for the M.I.T. Fiesta on March 9, 10, and 11. He will probably see others who plan to go, including **C. George Dandrow** and **Donald F. Carpenter**. Oscar plans to carry some of his prize-winning film with him and will perform for various friends en-route, including Buffalo on the return trip. ... **John H. Teeter**, Executive Director of the Damon Runyon Memorial Fund for Cancer Research writes that he will be in Florida in late March while Christine (one of the McGuire sisters), is appearing at the Palm Beach Playhouse and the Deauville Hotel. He states that the Damon Runyon Fund had its best year in 1960 with over \$1,500,000 contributed and \$1,300,000 paid out.

A lovely picture was published in December in the Buffalo Evening News of Judith Coolidge Carpenter, daughter of Mr. and Mrs. **Donald Fell Carpenter** of Mendenhall, Pa., and Martha's Vineyard, Mass., announcing her engagement to John Andrew Herdeg of Gowanda. She has been studying sculpture in the Art Students League in New York. John has graduated from Princeton, is now in the University of Pennsylvania Law School. ... **Parke Appel** has written a report on the Silver Stein Award Banquet at the M.I.T. Club in New York last December: "In addition to presentation of the Silver Stein by Jim Lyles, '27, I was invited immediately following to make a presentation to Dunc. I hit upon the idea of presenting him with a mint silver dollar with the date 1922 on it and which had never been in circulation. In my talk I made a play on the fact that the U. S. dollar had depreciated since 1922 of which we are well familiar but that this particular silver dollar had never and would never depreciate. Now on the other hand, because the silver was alloyed with a special ingredient the dollar would appreciate, since this special ingredient included all the affection and loyalty of the class of '22 for **Dunc Linsley**." Those from the class attending this most honored award for Duncan R. Linsley included the following: David M. Broudy, Nathan Cherniack, Laurence Davis, Clayton D. Grover, Theodore Miller, David Minton, Harry Pearson, Sam H. Reynolds, Hugh M. Shirey, Royal A. Stone, E. R. Thomas. Your secretary was golfing at the Augusta National and found it impossible to attend.

A letter from **I. R. Loss** of Phillipsburg, N. J., invites members of the class to drop in to see him at Ingersoll Rand Company at 11 Broadway, New York City, where

he is manager of Production Development. During the year he has had three weeks in Russia and a month in South Africa. ... New addresses include **Edward C. Fales**, Andover, N.H.; **Alden F. Erickson**, Jefferson, Maine; **Dale D. Spoor**, Richmond 29, Va.; **Keith W. Robbins**, Williamsport, Pa. ... The sympathy of the class goes to the members of the family of **Arch P. Wilks** of Webster Groves, Mo. Arch was an engineer for the Austin Co., a nationally known engineering firm. In World War I he was a transport driver with the American Field Service in France.—**Whitworth Ferguson**, Secretary, 333 Ellicott Street, Buffalo, N. Y.; **C. George Dandrow**, Assistant Secretary, Johns-Manville Corporation, 22 East 40th St., New York, N. Y.

## '23

Late in December I received the following very interesting letter from **Alan R. Allen**, our No. 1 world traveler: "I left in January of this year and hopped over to Lisbon, Portugal, that thriving and busy land which juts out into the ocean, and from there to quiet and quaint old Madrid where the modern and the Spanish folklore vie for attention. At Amsterdam the old Holland sailboats float by high over the cornfields, at least that is how it always looks. Then to Rome and some of Alfredo's spaghetti. Only a short hop to Athens, Beirut and Damascus where handmade silk goes for a song. It is always interesting going through the gold-beaters bazaar in Damascus next door to the thieves market. Next Baghdad perched along the dikes on the side of the Euphrates, and on to Tehran where all Iran was buzzing with the prospects of a new heir to the throne. A short side trip down to Shiraz and the ancient ruins of Persepolis and then on to Karachi where Pakistanis are elbowing for working space in their booming industrialization. A few side trips through Lahore, Rawalpindi, Murree, Abbotabad and Peshawar cover most of the area where the Himalayas irrigation water is being divided. Another hop to New Delhi and Agra where some of India's finest monuments to the Moguls still command world attention, and to Colombo where Ceylon surprised the world by electing the first woman Prime Minister. The tea plantations, high in the mountains, are a number one attraction. Of course, the Kandyan Dancers and the pin-up girls of the ancient Fort of Sigiriya Rock, that have weathered 2000 seasons, are high spots. Then on to Singapore, the once thriving metropolis of the Far East sobered by the bypassed airplane traffic. A short trip to Saigon, the Orient's City of Canals, the Lost City of Ankor Vat in Cambodia and Bangkok, the land of the solid gold Buddha and the 3000 temples, and finally on to Manila where the bustling modern American automobiles have pushed the rickshaws off the streets and even crowded the Igoroties out of the high mountain resort in Baguio. You should not get the idea that this was just a pleasure trip; this is

only what you can see out of the corner of your eye while passing. Just the same, it is always nice to get back again." Thanks for the excellent travelogue, Alan.

**Martin Tressel**, Chairman of the Junior Tennis Development Committee of the U.S. Lawn Tennis Association, has been instrumental in joining forces between the U.S.L.T.A. and the National Organization of Physical Education Teachers. This program is aimed at interesting youngsters in the game of tennis by means of the school gym classes. With such a program youngsters could become interested in tennis at the age of eight or ten and thus develop interest in the game at a tender age. ... **Robert C. Sprague** is chairman and chief executive officer of the Sprague Electric Co. The December 11 issue of The New York Times featured an article concerning the unique management of this electronics company. Unlike many electronic companies, Sprague is not dominated by engineers. Instead, they have as their key men, bankers, investment bankers, engineers, scientists and business men.

On October 24, on vote of the alumni, the faculty, and the Regents of the University of Minnesota, Dean **John Burckhard** received the Distinguished Service Award of the University of Minnesota (certificate and medal), presented by President O. Meredith Wilson at a dinner in Minneapolis. ... **Dr. Per K. Frolich**, who has been deputy chief chemical officer for Scientific Activities and chief scientist of the Army Chemical Corps since 1954, retired on December 31, 1960. Dr. Frolich went to the Chemical Corps in 1954 from Merck and Co., Inc., Rahway, N.J., where he was vice-president and scientific director of the Chemical Division. Prior to that he had been director of the ESSO Laboratories Chemical Division of the Standard Oil Development Company. During his six years with the Army Chemical Corps, Dr. Frolich has been responsible for research and development, and engineering activities throughout the corps. Upon his retirement he plans to engage in consulting activities. He and Mrs. Frolich will continue to reside at 9517 Kenneth Drive, Annandale, Va.

**Bondy** advises that a card from **Robert Burns** indicates that he might be our No. 2 world traveler, with trips to Ceylon, England and Ireland during 1960. Let's hear a little more about it, Bob. ... Just before the New Year your secretary-treasurer became a grandfather for the ninth time when his daughter, Helen Nelson, had her fourth boy. This makes a total of eight grandsons and one granddaughter. ... Two important reminders: 1) Do your part in the second Century Fund Drive; 2) Plan to be at the Institute April 7, 8 and 9. Plans are underway for a Class Dinner on Saturday evening, April 8.

We wish to advise of the following address changes: **Peter V. Martin**, Koppers Co., Inc., Koppers Building, Engineering and Construction Division, Pittsburgh 19, Pa.; **Charles H. Toll, Jr.**, 712 South Spring Street, Los Angeles 14, Calif.; **John W. Voelcker**, 63 Trotsworth Court, Virginia Water, Surrey,

England; **Edward T. Welling**, 26 Rosewood Ave., Ormond Beach, Fla.—**Herbert L. Hayden**, Secretary, E. I. du Pont de Nemours & Co., Leominster, Mass.; **Albert S. Redway**, Assistant Secretary, 47 Deepwood Drive, Hamden 17, Conn.

## '24

Last month we told you the shocking news of **Ed Wininger's** untimely death in that frightful air crash over New York. Services were held the following Wednesday at the Church of Saint Boniface in Irvington-on-Hudson. In spite of torrential rains and flooded roads, six of your classmates represented us. It was suggested by **Bill MacCallum** and others that a fund be started to which contributions may be made in memory of any members of our class who pass on. As many of you now know, that has been done. The Treasurer's Office at M.I.T. has set up a "Class of 1924 Memorial Fund," with no specific use indicated at present. As time goes on, when the fund reaches substantial proportions we can decide. The Memorial Fund was started with a gift from **Nate Schooler** in memory of Ed. Several gifts made last spring in memory of **Bill Robinson** were added in. Gifts may be made through the Alumni Fund, with this designation, or directly to the Treasurer's Office at M.I.T.

Your secretary went down to New York for our January luncheon. There were 13 of us there, and we stood for a moment of silence out of respect to Ed. He rarely missed one of these affairs. They won't be quite the same without him. . . . Years ago **Mal MacNaught** and your secretary started in the publishing business together. It was one summer while we were students, and we were the "impartial judges" who handed out prizes for some sort of contest the Boston Post was running at the time. Mal stayed with it, and early in January reaped a very pleasant reward. After 25 years with McGraw-Hill they gave him a big dinner along with assorted gifts. One of the gifts was a six-weeks' vacation which he and Barbara will spend touring Central and South America by ship and plane. The timing is perfect. It's their 30th wedding anniversary.

**Jack Hennessy** did a short stint in the hospital, but unlike most of us who come to this situation because of the infirmities of advancing years, Jack was there to have his appendix removed. At last reports, all was well. The appendix is out, Jack is out. . . . The **Amezagas** are settling in down in Mexico. Mike's business seems to be doing well, but obviously they're not very happy at putting down new roots at this stage, and being separated from their children and grandchildren. Mike gets to M.I.T. Club functions and those of you who go down to this year's Fiesta will see him and Hortensia there. If you'd like to write, it's: Miguel F. Amezaga, Calle Becquer #35, Mexico 5, D. F. . . . **Paul Cardinal** has sent along a reprint from "Chemical Processing" that may be of interest to some of you. It describes the 11-week course that Hoffman-La Roche gives for its foremen

and lab technicians to "spark job interest by teaching principles underlying their processing operations," to tell them the "why" of the work they are doing. Classes are voluntary, held after hours, and have been eminently successful. Paul will undoubtedly be happy to send reprints. Address him at Hoffmann-La Roche, Inc., Nutley, N. J.

An intriguing lot of Christmas cards this year. **Al Roig's** had a smart looking boat headed out to the sport fishing grounds, no doubt, with "Sea Jay 11, Humacao, P. R." on the transom. Couldn't tell whether that "11" meant two or eleven. . . . The **Cornish's** card had a somewhat latinized version of The Night Before Christmas. Sample: "Loo ninos are snuggled all safe in their camas." Nish has officially retired as master mind of the Fiesta, but it's a sure bet they have him waiting in the wings to call on in a hurry if they get in a jam. . . . As if she needed more trouble, **Patty Robinson** was hospitalized last spring with a slipped disc. She had recuperated sufficiently by summer to take part in a ceremony which must have been most pleasant to the entire family. "On July 27 we proudly participated in a memorial dedication ceremony at Camp Fort Herrick, the Salvation Army Camp for under-privileged Cleveland children. A backstop and bleachers for the 'W. H. Robinson Field' were purchased with the fund made possible by memorial contributions in Robbie's honor. In 1952 Robbie's G. E. Advertising teammates had his well-worn baseball spike shoes bronzed and mounted on a plaque. I presented this cherished memento to the Camp." . . . Two of your classmates retired from the employ of the City of New York and are now putting New Jersey in the water supply business. We've told you about **Walt Gress** before. He was with the N. Y. C. Board of Water Supply for years, is now chief construction engineer of New Jersey's Spruce Run-Round Valley water supply project. And **Abe Brown**, retired from the N. Y. C. Department of Water Supply, Gas Electricity, is chief design engineer on the same project. "We're about to advertise for bids on one of the three dam projects," says Walt. . . . Lots more good dope on those Christmas cards, but we can't squander it all in one column. More of it next month.

Now the class has a college president. For some time **Harold Hazen** has been a trustee of Robert College in Istanbul. Recently failing health forced Robert's president to resign and Harold was asked to take his place temporarily. So the Hazens left for Turkey in January for a stay of maybe six months. President Harold L. Hazen may be addressed at Robert College, Bebek, P. K. 8, Istanbul, Turkey. . . . Some of you will remember **Tyson Nimick**, who was with us for a couple of years. He roomed with **Paul Cardinal** our freshman year. We know very little about his career, but in 1953 he reported that he was a farmer in New Hope, Pa. Last December he died of a heart attack. . . . So much for now. Hope to see many of you in April at the big centennial celebration. We'll have a class dinner in there somewhere, which you'll hear all

about in due course, probably before you read these notes.—**Henry B. Kane**, Secretary, Room 1-272, M.I.T., Cambridge 39, Mass.

## '25

A recent item in the Springfield, Mass., News indicates that **Charles E. Knight**, General Superintendent of manufacturing services at the local Plastics Division plant of the Monsanto Chemical Company, recently joined with representatives from leading American firms and representatives of the Navy, Bureau of Yards and Docks in Washington, D. C., for informal discussions of common problems and goals in the field of maintenance management. One of the chief aims of this conference was to find means for getting more for each maintenance dollar spent. The Navy seems to have shown good sense in calling upon a person like Chuck who has had many years of excellent experience in engineering and manufacturing, and is the author of a number of articles on maintenance, having contributed several chapters to the "Maintenance Handbook," published in 1958.

A recent release of the Aetna Life Affiliated Companies indicates that **Donald G. Vaughan** has been promoted to assistant vice president, Aetna Casualty and Surety Company and Standard Fire Insurance Company of Hartford, Conn. Don is a past president of the American Society of Safety Engineers, and a director and former vice president for industry of the National Safety Council. He has for many years been active in the safety field. . . . A Christmas card from **George Blonsky** indicates that he is now working out of New York City, after some months when his activities took him to Korea and to Mexico—**F. L. Foster**, Secretary, Room 5-105, M.I.T., Cambridge.

## '26

We were delayed from our usual early Sunday morning start on the notes because of time out to put the infra red lamp on Heidi's rear leg. Somehow she tore the ligaments and it's a tedious recovery for a heavy St. Bernard. She is lying at my feet as I write, which relaxation is also part of the treatment. Well, the holidays are now behind us and we heard from several members of the class. **Barney Gruzen** always sends us an invitation to the holiday open house at his architectural office, 10 Columbus Circle in New York City. Some day we will take him up on this invitation. New York is an interesting place at holiday time. . . . Another New Yorker, **George Makaroff**, always includes a bit of philosophy on his Christmas card. This year's we quote. "Phooey on old age George! That next door neighbor of yours (the new president) will socialize the M.D.'s and we shall all live long enough to contemplate the beautiful with purity and without passion." . . . **Martin Staley** sends us a beautiful snow scene from Texas?? Are



you claiming to raise snow in Texas now Martin? . . . And **Dave Harrison** continues to send a six-page photographic report of his family. You will recall that Dave is the father of five girls. The family has now been increased by another girl, a granddaughter, Jennie Elizabeth. Dave's address is 265 Waddington, Birmingham, Mich. . . . Our other Dave, **Dave Shepard**, gives a new January 1, 1961, address on his Christmas card: Creamer Rd., Greenwich, Conn., and their new modern home is pictured with members of the family and a footnote that the design was by an M.I.T. architect. Dave Shepard also recently sent us a handwritten note with a clipping about one of our leading co-ed classmates. We quote, "This luncheon is in addition to the regular luncheon of Sigma Delta Epsilon for all women in science on 28 Dec., at which **Dorothy Quiggle** (Petroleum Research Laboratories, Pennsylvania State University) will speak on "Petroleum—A Catalyst for Progress." . . . While we are on the subject of petroleum, I recently called the Boston office of Gulf Oil Company and asked for classmate **Fred Broughton**. I was told that "Mr. Broughton has been transferred to our Philadelphia Office." Then I asked for **Cedric Valentine** and was told that he is now in the Concord, N. H., office. Let's have a report on these changes.

A clipping from the New York Times states the following: "\$20,000,000 sale made by Doelger—Former Brewery Interests Dispose of Most Realty Holdings in Bonner Deal.—In what is believed to be one of the largest realty transactions here in recent years, **Peter Doelger, Inc.**, has sold twenty-one parcels of property valued at \$20,000,000 for all cash. The buyer was **Bertram F. Bonner**, New York builder and investor. Thus, the Doelger interests which once operated a well-known brewery here, have disposed of most of their realty holdings, some of which had been owned since 1872." Pete dropped in at Pigeon Cove last weekend and we asked about his plans for the future. He expects to continue to make his headquarters in New York but is considering building another house here and spending more time in New England. He is also considering entering the public service—has already been approached for an important position in New York City. . . . You will recall that I chastised **Stark Draper** last month because the clipping services only sent me two stories about him. This month I only have one. Stark's picture was on the cover of the January 2 issue of *TIME* as one of the men of the year and on page 43 the following write up: "Charles Stark Draper, 59, head of M.I.T.'s Department of Aeronautics and Astronautics and of its Instrumentation Lab was once trying to spell out the meaning of dyne centimeter, a tiny unit of torque (twisting force). 'A dyne centimeter,' said Draper, a sociable chap, 'is just about the amount of torque that would have to be applied to my arm to get me to take a drink.' Draper's contributions to aeronautic and missile technology include the A-4 gunsight that gave U.S. Sabre jets clear superiority over Russian MIGs

in Korea and the inertial guidance systems that control far-ranging U.S. missiles, including the Polaris. Says Draper: 'I've been accused of being the mother and father of inertial guidance.'" This should take care of Stark until reunion time when we test his definition of a dyne centimeter.

Again, let's hear from you. Notes like the one Dave Shepard sent with a clipping about another classmate are most helpful and take just a minute. See you next month.—**George Warren Smith**, Secretary, E. I. du Pont de Nemours and Co., 140 Federal St., Boston, Mass.

## '27

It is interesting to see that our class kept its nose above water with an average contribution of \$75.00 to the 1960 Fund. This compares with \$47.00 for the class of '25, \$37.00 for '26, \$51.00 for '28, and \$91.00 for '29. Our total contributions since 1940 are \$250,000. This is slightly less than the class of '26 and '28, but more than '25 and '29.

We had a note from **Ed Damon** who, after a long career with Phillips, has taken an early retirement and found plenty of time to write during a South American cruise. I don't know whether Ed is open to any new offers but his address is 1217 Jennings Ave., Bartlesville, Okla. . . . From time to time the Institute removes from the active alumni list names of people who have not been heard from in a very long time. Just in case any of you have any recent information on any of these men, following are the names and last known addresses: **Paul L. Arpin**, Van Nuys, Calif.; **John E. Brooks**, Roslindale, Mass.; **Samuel Cushing**, Minsk, Russia; **Albert D'Amato**, W. Roxbury, Mass.; **John J. Davis**, Dorchester, Mass.; **Loran G. Harvey**, Harrison, N.J.; **Tung Kuan**, Chungking, China; **Robert F. Lowry**, New York City; **John T. Shillingford**, Pittsburgh, Pa.; **Norman A. Steimer**, Beaver Falls, Pa.; **Prof. Tokujiro Uyeda**, Tokyo, Japan; and **Isadore Wexler**, Cambridge, Mass. . . . An error was made in the December Class Notes in the announcement of the marriage of **Maurice Davier**. His bride's name was given as Elizabeth Herndon. This should have read Elizabeth Herndon Guinn. Their address is 806 Cabell Ave., Charlottesville, Va.

A search of the current directory for members of the Class of 1927 who have participated in the activities of the Alumni Association reveals the following impressive list: Officers—**Clarence L. A. Wynd**, President, and **William L. Taggart, Jr.**, Vice President; Alumni Term Members of the Corporation—**Dwight C. Arnold** and **Clarence L. A. Wynd**; Alumni Council—**Clarence L. A. Wynd**, President; **Dwight C. Arnold**, ex-President; Class Representative on the Council—**Glenn D. Jackson, Jr.**; Class Representative of M.I.T. Club—**Richard P. Hawkins**, Mexico City; Committees of the Association—**Dwight C. Arnold** (Audit and Budget); Alumni Fund Board—**Dwight C. Arnold** and **W. L. Taggart, Jr.**; Class Officers and Class Agents—**James A. Lyles**, President; **J. S.**

**Harris**, Secretary; and Class Agents **Richard P. Hawkins** and **Glenn D. Jackson, Jr.**; Alumni Representatives on Departmental Visiting Committees—**Edward D. Stone** (Architecture); **Samuel S. Auchincloss** (Physics); **Richard L. Cheney** (Student Activity); Officers of M.I.T. Clubs—**Arthur M. Hill**, Vice President M.I.T. Club of New Mexico; **John J. Dunn**, President M.I.T. Club of Eastern and Northern Maine; **Fernando A. Canada**, Vice President M.I.T. Club of Spain; **Glenn D. Jackson, Jr.**, President M.I.T. Club of New Hampshire; **Arturo Marques**, President M.I.T. Club of Uruguay; Associate Club—**Harvey A. Fitts**, Vice President M.I.T. Club of Framingham, Mass.; Educational Council of the Institute—**Lawrence B. Grew**, New Haven, Conn., Area; **Richard L. O'Donovan**, Miami, Fla., Area; **Ralph B. Johnson**, Honolulu; **F. S. Badger, Jr.**, Indiana; **Morgan Collins**, Detroit, Mich., Area; **J. Robert Bonnar**, New York City Area; **Clarence Wynd**, Rochester, N.Y., Area; **David E. Truax**, Charlotte, N.C., Area; **Howard P. Ferguson**, Cleveland, Ohio, Area; **G. A. Hall**, Columbus, Ohio, Area; **W. G. Payne**, Dayton, Ohio, Area; **Howard H. Burt**, Youngstown, Ohio, Area; **Albert C. Smith**, Scranton, Pa., Area; **C. G. Davies**, South Carolina; **L. B. Peterson**, Norfolk-Newport News, Va., Area; **Arturo Marques**, Uruguay.—**J. S. Harris**, Secretary, Shell Oil Company, 50 West 50th Street, New York 20, N.Y.

## '28

While attending the Fall Meeting of the New England District, American Society for Testing Materials, your assistant secretary was joined during the refreshment period by **David Mathoff**. The meeting was held in the Museum of Science, Boston, and we had a very pleasant time together with beverage, cheese, crackers, exchange of personal news, and an educational stroll through the exhibition halls. Dave had been hospitalized recently but we are pleased to report that he is now back to good health. . . . **Francis (Fritz) Rutherford**, from down South, took a long trip last summer through the New England States and Canada. He stopped in at the Institute and visited with **Ralph Jope**. This was his first return to M.I.T. since graduation. Fritz, now living in Frogmore, S. C., is in consulting work, mostly for NATO and the Army. He also has a part interest in a small corporation in Tennessee.

We regret to report that **Howard E. Hanson**, Course II, died on December 11, 1960. His last address was at Roundys Corner, Gilsum, N. H.—**Walter J. Smith**, Assistant Secretary, 15 Acorn Park, Cambridge, Mass.; **George I. Chatfield**, Secretary, 11 Winfield Avenue, Harrison, N. Y.

## '29

You have all received last month's letter from the Institute, outlining the Centennial Week activities: the early

week's meetings, the open sessions on April 7 and 8, President Stratton's reception-cocktail party, and the informal class dinners on Saturday afternoon and evening for Alumni and their ladies, as well as the convocation and concert on Sunday. We have gone on record that we will be there 30 strong around the '29 table. Many of you have suggested annual reunions. This is it for '61.

**Captain W. E. (Bill) Creedon**, USCG recently retired from service and has begun his civilian career as instructor of Electrical Engineering at the University of Washington (State). Bill has had quite a career with the Coast Guard, serving his first five years on cutters and destroyers. He attended postgraduate school in Annapolis and received his master's degree in Mechanical Engineering from the University of California in 1938. For five years he taught at the Coast Guard Academy and then was assigned as Engineering Officer on the "Gen. William Mitchell" until 1945. He then served as commanding officer of the Field Testing and Development Unit at Curtis Bay, Md., and later as executive officer on the ice-breaker "Eastwind" and commanding officer of the cutter "Tampa." Most recently he has been chief of the Engineering Division at the 13th Coast Guard District headquarters in Seattle. Bill lives with his wife and daughter at 2599 Crestmont, Seattle.

**Mac Hubbard** has merged Hermes Electronics Company with the Itek Corporation here in town. Mac becomes technical vice president, responsible for coordinating the various research and product centers within Itek. . . . From the press: **Joe Clary** has been appointed vice president in charge of sales for the Railway Division of the Budd Company. . . . See you on April 8.—**Fisher Hills**, Assistant Secretary, 62 Whittemore Avenue, Cambridge 40, Mass.

## '30

As the poet says, "Hope springs eternal, etc." On December 13, hopefully expecting to garner a few items for the notes, I attended the annual Silver Stein Dinner of the M.I.T. Club of N. Y. which will doubtless have been reported in a prior issue by the time this appears. However "hope" stubbed its toe a bit when I discovered myself to be the sole representative of 1930 present, sandwiched between respectably sizable delegations from the two adjacent classes. Hence once again it will be necessary to rely on the written word as source material.

**George Barker**, who with his wife Ida attended the reunion last June, has recently become associated with the Van Straaten Cehmical Co. in Chicago as vice president and director of research. When last heard from, he was in the process of moving to Glencoe, Ill., with his family which includes, in addition to Ida, a daughter Ann, who is a pre-medical student at University of Pennsylvania, and a daughter Joyce, who is a high school junior. George has been a member

of the Board of Governors of the Chemical Specialties Manufacturers Association and is active in church work. He reports that last summer he saw **Ernest Fell** who has an active medical practice in Fall River, Mass. . . . Two laments concerning business conditions were received this month, oddly enough from opposite ends of the country. One was from **Dick Barnes**, who is a manufacturer's agent and representative for the pulp and paper industry in California. The other was from **Reg Bisson**, who operates his own construction company in Laconia, N. H. Let us hope that the central states are doing better business-wise. Dick and his wife and son Richard T., 3rd, a high school senior, are living in Burlingame, Calif. Reg reports that his oldest son William graduated from M.I.T. last June "exactly 30 years to the day and hour after I did." Daughter Betsy is a sophomore at University of N.H., and sons Robert and John are in public school in Laconia. Reg is treasurer of the Associated General Contractors of New Hampshire, trustee of the Laconia Savings Bank and Laconia Hospital, director of the Laconia Chamber of Commerce, Laconia Housing Corporation and Laconia Industrial Development Corporation and a reserve Colonel in the Army. This extensive extra-curricular activity has led to a listing in "Who's Who in the East." Congratulations, Reg.

We have at hand a further report from **Hank Bates** whose golfing talents were touched on in the November issue. Hank is vice president and director of Administrative Services of Johns-Manville Corp., with responsibilities in the areas of systems and procedures work, operation of data processing centers, and various real estate activities. Hank's oldest son Richard has finished school and is working, daughter Marcia is married, Virginia is a junior at Wheaton, and Roger is a high school sophomore. The little white spheroids are punished at Rockville Country Club in Rockville Center, L.I. where Hank and his family live. . . . **Les Berman**, who with his wife Gertrude attended the reunion last June, is district manager of Johnson's Wax with responsibilities in the field of sales and administration. His daughter Maxine is a sophomore at University of Vermont. Les is president of Temple Brotherhood in Newton, Mass., and a member of the Sojourners. He and his family live in Waban. . . . **Harry Beohner**, who was formerly vice president of Pfadler Permutit, Inc., in N.Y., has gone into business for himself. He is owner of Wilner Engineering Co., of Stamford, Conn., which specializes in sales and service of household and commercial water conditioning equipment. He and his wife and two sons live at 48 Norval Lane, Stamford.

In addition to the above, brief reports have been received from: **Bob Baldwin** who is art director of Columbia Pictures Corporation and lives in Altadena, Calif.; **Joe Becher** who is with Burns and Roe, Inc., in New York, and lives in Watchung, N.J.; and **Jack Bennett** who, as previously reported, is now treasurer of Goodyear. As you can see, returns from

the first half of the B's have been quite gratifying. Let's hope the second half of the B's do as well.—**Gordon K. Lister**, Secretary, 530 Fifth Ave., New York 36, N.Y.; **Ralph W. Peters**, Assistant Secretary, 249 Hollywood Ave., Rochester, N.Y.; **Louise Hall**, Assistant Secretary, Box 6636, College Station, Durham, N.C.

## '31



Our Class Luncheons every third Monday in the month at the M. I. T. Club in New York (Biltmore Hotel, Madison Avenue and 43rd Street, just across the street from the Grand Central) are beginning to look like monthly reunions. **Marcel Aillery**, an old time regular at these meetings, moved to the country some time ago but still isn't entirely accustomed to living in a house. Recent complaints of his include the necessity for shoveling snow from a 250-foot driveway and trying to keep the children from throwing clothes all over the house. It was also a pleasure to see my old roommate at the last luncheon, **Bill Roberts**. Bill is special projects manager for National Analine Division of Allied Chemical and lives at 55 West Road, Short Hills, N. J. His daughter, Martha, has been accepted at Vassar recently under the advance acceptance plan. **Herb Raymond** is another Club regular. **Charlie Terwilliger** is also usually on hand at the class luncheons. His son is at Robbins College and Charlie is still as interested as ever in clocks as an avocation. His latest innovation is a reproduction of a flying pendulum clock, which was patented circa 1883. **Jack Weprin**, another member of the Class Luncheon gang always enlivens the meetings. He is in the real estate business in New York. . . . A welcome letter from **Leo Green**, who went to Boston University Medical School after Tech and graduated cum laude in 1936, reports that as of January 17, his new address will be 175 Ascan Avenue, Forest Hills 75, N. Y. His son, Stuart Alan, is a sophomore at Lafayette. (Leo says that he couldn't talk Stuart into Tech although he got the Physics Prize, Science Prize and Rensselaer Medal on graduation from High School.) Leo's daughter, Joyce Ann, now 14, is a sophomore in High School and his wife, Mary Gertrude, is attending Queens College at night. Leo writes that he is looking forward to our 30th reunion—as are we all. . . . Saw **Austin Murray** for a few minutes on the train to White Plains during the Christmas holidays. He looks as young as ever and seems to be enjoying life. . . . A note from our class prexy, **Howard Richardson**, called my attention to the fact that a classmate, **Alvino Manzanilla**, is president of the M. I. T. Club of Mexico City. The Club is holding their 13th Annual Fiesta in Mexico City, starting March 9 and continuing through Saturday, March 11, and from all reports it's going to be the best ever. . . . Word has just been received of **Thomas J. Morrow's** death on February 11, 1957. No details were given.

New addresses since our last Class Notes are **Israel Bearon**, 4085 Meadow-



brook Lane, Minneapolis 26, Minn.; Captain **Norman E. Blaisdell**, 223 Belle Haven Road, Alexandria, Va.; **Percival B. Elbaum**, Bristol Machine & Tool Co., Inc., 16 Jeanette St., Forestville, Conn.; **James D. Elliott**, 1832 Lansdale Dr., Charlotte, N. C.; Col. **Fred J. Elser**, 1189 Tamarisk Rd., Palm Springs, Calif.; **Kenneth J. Germeshausen**, 240 Highland St., Weston 93, Mass.; Lt. Col. **Harry D. Kamy**, Transportation Material Command, Box 209—Main, St. Louis, Mo.; **Leon A. Kolker**, 54 Butler Rd., Scarsdale, N. Y.; **William Charles Lamb**, Gulf Oil Corp., 17 Battery Place, New York, N.Y.; **Alexander G. MacKenzie**, P. O. Box 910, Fergus, Ontario, Canada; **Arsene W. Morin**, 495 Main St., Orange, N. J.; **Maganial Parekh**, 2212 Krishnanagar, Bhavnagar, Saurashtra, India; **Albert R. Sims**, Thoreau St., Concord, Mass.; and **Ernest B. Whitworth**, 219 Lenox Ave., Westfield, N. J. . . . Don't forget our 30th Reunion! June 9 to 12, at the Wianno Club on Cape Cod. A meeting of your Reunion Committee was held on January 12th—and you'll be hearing more from them shortly.—**Edwin S. Worden**, Secretary, 6 Murvon Court, Westport, Conn.; **Gordon A. Speedie**, Assistant Secretary, 90 Falmouth Road, Arlington 74, Mass.

## '32

The Cuban Revolution has evidently driven out one of our classmates, **Hari Cruz-Bustillo**, II. He has changed his permanent address from Havana to Coral Gables, Fla. . . . **Harner Selvidge**, VI-A, has left Detroit and now lives at 4638 Placida Avenue, North Hollywood, Calif. . . . **Ashby R. Powell**, XV, has moved from New York to 2130 Hassell Place, Charlotte, N.C. . . . **Willis S. Hutchinson**, XV, sent me a long Christmas epistle outlining the activities of his entire family. Bill is in charge of Market Development in the New Products Division of the Minnesota Mining and Manufacturing Company in St. Paul. He is also a deacon in the St. Anthony Park Congregational Church and an ardent participant in outdoor sports, particularly at his summer camp on the St. Croix River. After 25 years of marriage, his wife has time to go back to school again and to study anthropology at the University of Minnesota. She has recently made a trip around the world with a church group which is trying to help the cause of people in the underdeveloped countries of the world in an effort to permit Americans and Asians to gain better knowledge of each other. Their children all have left home. Their oldest, Alice, has been married for several years to a Presbyterian minister in Altamont, Ill. Bruce was a star hockey player at Amherst, winning All-Eastern College Recognition for two years, as well as being on the ski team. He is now studying medicine at Northwestern University. The next boy, Edward, is at Boston University studying philosophy, after two years at Hamilton College in New York. The youngest is studying business administration at the University of Montana. All this hardly seems possible because it was

only a few years ago that we were all together here at Tech as undergraduates.

**Frederick E. Mader**, II, has been promoted to assistant divisional manager of the Worcester office of the New England Fire Insurance Rating Association. . . . **Frederick R. Henderson**, XV, writes that I placed him in the wrong part of the country in one of my recent notes. After leaving Northeastern University in Boston where he was executive assistant to the Vice President, he went to Colorado to become head of the Engineering Department at the Northeastern Junior College in Sterling. Now he is associate professor of Mathematics at the Rochester Institute of Technology, teaching Engineering Mathematics. Fred is living at 43 Little Brook Drive, Pittsford, N.Y., and would be happy to hear from any of our classmates who are in the vicinity of Rochester. . . . **Juan Serrallach**, XV, sent me a Christmas card with a note that he had heard from a good number of our classmates who would be interested in visiting him in Spain. . . . **Jim Robson**, II, writes, "I manage to more or less commute between Akron and Detroit where Firestone has strong roots with the automotive industry and it is a very exciting league indeed." The older daughter, Mary, is a sophomore at Middlebury College in Vermont. That gives Jim and Winifred an excuse to escape occasionally from the rigors of Akron to the peaceful countryside of Vermont.

I am enjoying my new duties as acting head of the Department of Civil and Sanitary Engineering. Drop by and see my new office in Room 1-163. I was very fortunate in getting my office redecorated and refurnished in short order, helped notably by two of our classmates who are in charge of such things around here—**Donald Whiston**, XVII, General Superintendent of the Physical Plant Department, and **G. Edward Nealand**, V, Director of Purchasing for Tech. Another classmate here at Tech, **Al Dietz**, XVII, is kept extremely busy in the field of housing, in addition to being head of the Building and Engineering Construction Division of our department. He is a member of the Building Research Advisory Board of the National Academy of Sciences and is heading up a research project of the National Association of Home Builders. He will be addressing that group in February at their Chicago meeting and will discuss his work in the building of dwelling houses by components. Al has been a leader in the field of prefabricated dwelling house construction. His son, Henry, has graduated from Hebron Academy in Maine and is now enrolled as a Freshman at Miami University in Oxford, Ohio. This was Al's alma mater before attending M.I.T. His daughter graduated from Smith last year.—**Rolf Eliassen**, Secretary, Room 1-163, M.I.T., Cambridge.

## '34

From New Zealand, **Henry G. Lambert** writes the most interesting letter this time: "Classmates may remember

the anti-nazi demonstration of May 12, 1934, which cost me my diploma and thereby affected the course of my life. Though Boston born and reared, I've lived the last 24 years in New Zealand. (Not to be confused with Australia, a separate country over a thousand miles away.) The length of New Zealand, end to end, is about the distance between Massachusetts and Florida, yet the population is only two and one-half million, mostly of British descent with a minority of native Maoris. Although New Zealanders look to America for the latest industrial techniques, they consider themselves well ahead of America politically, with no racial segregation, women's suffrage introduced 27 years before U.S.A., and old age pensions introduced 37 years before U.S.A. Socialized medicine was introduced 21 years ago, bitterly opposed at the time, but nowadays approved even by the most conservative.

"Upon first arriving here I did pick-and-shovel work, radio servicing, photography, welding and drafting. Then, 16 years ago, I took on the job of building and managing an Industrial Instruments Division of an importing firm. After building it up 100-fold, from the least important to the most important instrument business in New Zealand, I've now (last year) set up as an independent industrial consultant, specializing in process control problems. For some years I've been active as a fellow of the New Zealand Institute of Management—12 years on the Council, five years teaching evening classes in Industrial Management, a term as president of the Auckland Division and am currently engaged in re-writing the New Zealand Government's four-year correspondence course in industrial management. If any reader wants to know anything about New Zealand industry or commerce, I can probably supply the answers. (Address: P.O. Box 2423, Auckland.)

"For ten years my chief hobby was exploring caves: Speleology. New Zealand has hundreds of limestone caves, some of beauty rarely surpassed in other countries. Many are still unexplored. One cave is over 1400 feet deep, which I think beats any American cave. A very few caves are so populated with tiny glow-worms that one can read newspaper headlines by their light. I founded the New Zealand Speleological Society, and for nine years was president of the society and editor of the quarterly New Zealand Speleological Bulletin. Have swum underground rivers and climbed down subterranean waterfalls, and all that sort of thing. On one occasion I photographed and collected a bird-skeleton lying on the floor of an unexplored gallery some five hours' journey in from the entrance. It proved to be not merely a new species but a previously unknown genus of extinct bird. Once on the snow-clad volcano Ruapehu, investigating an ice cave outlet from the crater lake, I slept the night in the ice-walled crater at 9,000 feet. I placed my sleeping bag over a small fumarole to keep warm, which was so effective that thermometer at my feet registered 110°

F. But the sulphurous vapors were hard on the eyes and throat. In the morning I had a swim in the crater lake, but couldn't find any comfortable temperature in between a freezing 32° F. and the isolated hot spots at well over 100° F.

"Quite another kind of interesting experience occurred when fire walkers from the Fijian Island of Bengga gave three demonstrations in Auckland. I secured permission to make temperature measurements with thermocouple pyrometers. The hot stones were of a volcanic andesite, of moderately low thermal conductivity. After clearing off the embers and levelling the bed of red hot stones, their internal temperature was 1770° F., but the exposed upper surfaces quickly dropped to about 400° F. Each bare-footed fire walker spent just over eight seconds stepping deliberately from stone to stone. Although the temperature was less than popularly imagined, the radiation was so intense that it drove me back twice before I could get a reading. The heat on my face, at a distance of three feet, was unbearable. When you consider that 400° F. corresponds to an ordinary domestic iron, set for ironing cotton or linen, can you then imagine walking on that for eight full seconds? The soles of their feet are far tougher than ours, but to me that's not an adequate explanation. I attribute much of their immunity to self-hypnosis induced by the hour of religious preparation just preceding the walk.

"Despite a few high spots, my life has been for the most part uneventful. My first marriage went on the rocks a few years ago, and it ran me heavily into debt to get clear of it. Then, over a year ago, I met and married Miss Jan Jackson, age 25, and now we're expecting our first-born in April, by which time we hope to have moved from our rented flat into a newly-built home of our own. What with a new professional practice, a new home, and a new family coming along, life will be a financial struggle, though well worth struggling for."

**Walter R. Hedeman** joined the Aircraft Radio Corp., Boonton N. J., last summer and is director of research and development. . . . **W. F. Rahles**, who designs chemical engineering plants and supervises their construction from the drawing board to finished plant, is doing it again for the Archer-Daniels-Midland Company. This time he has moved temporarily to Louisville, Ky., in order to engineer a rather large chemical center to be built in Peoria, Ill. One of his hobbies is Lapidary, or rocks, for short. . . . **John R. Newell** became president of the Society of Naval Architects and Marine Engineers on January 1 for a two-year term. In a November speech before the society he forecast a drop in shipbuilding and a lean future for U.S. shipyards. Same tune, fifth verse, lower foreign construction costs.

Another item has come from an October issue of the New York Times concerning Dr. **C. S. Grove** who received an advanced degree with us in 1934. "Miss Suzanne Treadwell, daughter of Mr. and Mrs. Edwin Wesley Treadwell of Franklin, Pa., was married here (Syracuse,

N. Y.) this afternoon to Dr. Cornelius Sherman Grove, Jr., son of Mrs. Grove of Hickory, N. C. and the late Mr. Grove. The bride is a graduate of Allegheny College, where she was elected to Phi Beta Kappa. She is doing graduate work in Russian studies at the Maxwell School of Citizenship and Public Affairs at Syracuse University. Dr. Grove is a graduate of Lenoir Rhyne College and received advanced degrees from the University of North Carolina and Massachusetts Institute of Technology. He holds a Ph.D. from the University of Minnesota and is Professor of Chemical Engineering and director of engineering research at Syracuse."

**Samuel A. Groves**, President of United-Carr Fastener Corporation, has just been elected a member of the Board of Directors of the First National Bank of Boston. . . . **Ken and Kay Lippitt** sent a newsy Christmas letter telling of their new job and home. Ken is now with the Rohr Aircraft Corporation at Chula Vista, Calif. (a suburb of San Diego), and his home address is 3782 Putter Drive, Chula Vista. They have three boys, John, in El Camino Junior College in Los Angeles, Tom, a sophomore in High School, and Jim, in Junior High.—**Malcolm S. Stevens**, Secretary, Room 20B-131, M.I.T.; **G. K. Crosby**, Secretary, Longwood Road, Huntington 1, W. Va.; **James P. Eder**, Secretary, 1 Lockwood Road, Riverside, Conn.; **Harold E. Thayer**, Secretary, 415 W. Jackson Road, Webster Groves 19, Mo.

## 35

Each month we have had new District Secretaries to announce. Here are the latest additions to our growing organization now totalling 34: **Irving Banquer**, west of Boston; **Gerry Golden**, northwest of Boston; **George Forsburg**, southwest of Boston; **David Cobb**, southeastern Massachusetts and Rhode Island; **Dick Lawrence**, New Hampshire; **Art Haskins**, Maine; **Bob Madden**, Canada; and **Don Wood**, Texas.

Most prolific news gatherer has been **Dave Cobb** who reports as follows: **William J. Kerrigan** of Fall River reports that he is Unit Supervisor for the Division of Employment Security in Fall River. He is married and has two sons: William, Jr., 24, and Michael, 16. During the summer months Bill operates a lobster boat in the area, so if any of youse guys get to hankering for those succulent crustaceans next summer, contact Bill and tell him "Dave sent me." . . . **George F. Lincoln**, who, since he hit pay-dirt, would rather be known as G. Fred, says he is still living the same old hum-drum life. Went to New Hampshire for a few days' vacation and saw some of the boys. He has promised to scout around the Providence area and scrape up some dirt for this column, for which we thank him. Be careful what you report, Freddie! Some of the fellows' wives might read these items—we don't want to start anything. . . . Although you may not remember **George Axel Peterson**, those at

the reunion can't forget his bouncing Ginny. George reports "Nothing" except that he and Ginny have given up the idea of summer vacations, and now take theirs in the winter when they go to Florida. (Lucky stiff.) They leave the two boys at home and enjoy themselves.

. . . **Walter A. Roffe** runs Rof-Mar Lodge in Sandwich, Mass. It is a private club with a long waiting list, and only members and their guests can get past the front gate. He vows he has the best orchestra and food on Cape Cod. Line forms on the right! He is still a bachelor.

. . . **Kasmierz J. Winiarski** tells me he has been quite ill since 1957, and is more or less confined to the house, being unable to work. He is still unmarried, so has no one to fight with for excitement. Winnie would welcome some correspondence from his old friends. His address is 133 Bates Street, New Bedford, Mass. . . .

**Dave Cobb** traveled West in October to gain a daughter-in-law, but he won't say where because he was on the grand fly all the time and couldn't contact a lot of the fellows in the district, even though they had asked him to. Come August, you can call him Grandpa. . . . **Earle Megathlin** is still a purchasing agent for Raytheon, but has been shifted from the North Dighton plant to the Portsmouth, R. I., Anti-Submarine Warfare plant.

Son, Barclay, is a soph at University of Massachusetts, and son, Earl, Jr., a freshman at Worcester Polytech. Otherwise, in the same old rut. . . . Plug: Don't ever turn down a chance to eat at **Ham Dow's**. Edith puts Ruby Foo to shame.

. . . **Jim Notman** brags of three boys, the oldest a freshman at Trinity and a girl. He works most of the time selling textile machinery around the countryside but squeezes out some time for sailing. He couldn't make the reunion because he was in the hospital for a couple of weeks. Nothing serious, and he is all right now. Business is good, sez he.

I wrote to **Jack Holley** to sign him up as District Secretary for Central Boston area, only to receive the following letter written from 3324 Valley Pike K-10, Dayton 24, Ohio. (The unexpurgated version will be mailed upon receipt of postage paid return addressed envelope!): "It so happens that I don't reside in Boston. And where I reside is a sort of hypothetical thing completely at odds with any known mathematical laws. In other words, I'm a TechRep! TechReps do not fade away, neither do they live to to a ripe old age. They get married. This ruins their TechRepping. Putty soon—notice I hit the 't'—they become engineers, salesmen, executives, managers or some other equally respectable job holder and have time to join the PTA or follow some similar soul stirring endeavor. Really though, I'm not laughing. Remember I raised five. My youngest graduates from Southern Connecticut State College this June. Anyhow, I married, yup, second trip. Over 90 percent of widowers and divorcees remarry within three years. Eventually we'll be in the L.A. area (I adopted the locale because the dancing is better here than anywhere else in the U.S.A.) to settle down and visit around. I say 'I adopted.' The mere fact that my



wife is from Alhambra, as is her sister, mother and offspring, is purely incidental. Our immediate plans call for a visit to Long Island. We expect to be there at least two months. This gives us a wonderful opportunity to dance at the Roseland, Arlington Hall, that big ballroom in New Jersey, and to get better acquainted with the Tech Club of New York. We will take in the IRE show, of course, and mayhap talk to some west coast people."

**Hal Bemis** sent the following on **Harry Englund** who now lives at 112 Ellis Road, Haverton, Pa. Harry retired from active duty in the US Navy in 1957 and is currently Planning Director for the C. H. Wheeler Manufacturing Company. His elder daughter has already made him a grandfather while his younger daughter is preparing for college next year. Harry asks that "anyone having knowledge of an available college scholarship for an exceedingly intelligent and attractive 17 year old lass, please communicate with her pop." Harry and his wife have been active in church and community affairs in and around Ardmore.

An announcement reached me of **Paul Cohen's** marriage to Dr. Ruth Rabinovitch in Glen Cove, Long Island, November 24. . . . Dr. **Frank S. Gardner** of Wayland, Mass., has taken a position as metallurgist for the Office of Naval Research in the Boston Branch. He was connected with General Electric for 12 years in Pittsfield, Mass., until July, 1958 when he became project manager for Nuclear Metals, Inc., in Cambridge. Frank has four sons: Richard, a freshman at Williams College; James, a junior at Holderness School in Plymouth, N.H.; and David and Thomas. . . . **Benjamin F. Schlimme** has been appointed planning manager for the Industrial and Biochemical Department of the DuPont Company. He had been the assistant planning manager since 1958.

**Art Haskins**, in accepting "the dubious honor of becoming District Secretary for this bleak stretch of rocks and woods from here to the Canadian border" writes as follows: "If this calls for personal contacts, the Class of '35 news from the north country will have to wait until the spring thaw. My dog team was just repossessed by the finance company. However, I'll get letters out by the next stage and see what Santa Claus' helpers send back to me. In the meantime, please accept this meager contribution from my own memoirs.

"I believe the last written about me in the class notes was that I left the Bath Iron Works Corp., Bath, Maine, where I had worked since '35, and bought a hardware, appliance, gas and oil business in Wolfeboro, N. H. That was in 1946. Life in New Hampshire was good but in 1955, the call of engineering was strong, so I sold out and went back to Bath. The Iron Works sent me to the International School of Nuclear Science and Engineering at the Argonne National Laboratory in Lemont, Ill., for eight months. On returning from Argonne, I was made assistant machinery superintendent, my present position. My son Dan, a graduate of the University of

New Hampshire, is now studying for his M.S. at Tech in Mechanical Engineering, at the same time holding down a teaching assistantship in the Sloane Combustion Engine Laboratory. Daughter Carolyn is a Junior at Gorham State Teachers' College in Gorham, Maine. We are a sailing family and have a modest collection of cups won in competition in small sailboat racing on Casco Bay in our Herreshoff Bulls Eye. My wife, Dot, and I spend our spare time putting the finishing touches on the new house that we designed and built in 1957. Adult Boy Scout work takes a bit of my time, too." Thanks, Art, for this good report.

**Don Wood** writes from Corpus Christi, Texas: "I do not know whether your selection of District Secretary for this area is going to be too good. With the amount of traveling I have been doing lately it has been very difficult to keep up with my local obligations. However, I am willing to give it a try, if you can bear with me. I am afraid I cannot make a start on this until February, as I am scheduled out of Corpus Christi for Richmond, Va., and London, England, on Monday of this next week and will not be back in Corpus Christi until probably the second week in February. As you know, I remarried in 1954 and, at that time, I told my prospective bride that I would be traveling somewhat but that it would fall off after a couple of years. However, it seems to have gone in the other direction. In this past year I have been away about 70 per cent of the time and I appear to be making a good start in the new year. Being in charge of the operation of Caribbean Steamship Company for Reynolds Metals Company requires me to move farther afield each year as the parent company expands its operations."

On a recent trip to Washington, D. C., I telephoned **Louis Fong** to see if he could add anything to the notes in our Reunion Book. He was just about to leave for two weeks' active duty with the Air Force. In February he starts a one-year Fellowship, studying in Scientific Management at Brookings Institution. His 12 year old son Glenn attends Quaker school and is learning things as a part of the National Science Program that we studied as freshmen and sophomores at M.I.T.! Will keep you informed if Louis finds he has to take some time out this spring for a cataract operation at Massachusetts Eye and Ear Infirmary. . . .

**Jack Orchard**, also on the phone, has some advice for those of us who are fathers of young children. He has an arrangement with a 45 year old father of a four year old living across the street from him to alternate refereeing and/or participating in all small boys' sports requiring more than ordinary movement of body and limbs. After receiving some fine pieces of literature on the products made by Jack's company along with some on Hal Bemis' company's products, I have begun to wonder if it might not be possible to set up a product list for distribution to the entire class, with some sort of slogan "Buy from an M.I.T. '35'er." If this appeals to you, send me your company's product literature. . . . Keep the news coming. Write now to: **Edward**

**C. Edgar**, Kerry Lane, Chappaqua, N. Y.; **Hal L. Bemis**, 510 Avonwood Road, Haverford, Pa.; **Elmer D. Szantay**, 6130 N. Kilbourn Ave., Chicago 16, Ill.; and **Gerald Rich**, 673 Rosita Ave., Los Altos, Calif., Regional Secretaries.—Class Secretary **Allan Q. Mowatt**, 11 Castle Road, Lexington 73, Mass.

## '37

**Len Seder** is engaged in management consulting, specializing in quality control. He has his own firm and does much traveling and lecturing around the country. Len is also an associate editor of "Quality Control Handbook." He says he finds M.I.T. alumni everywhere and is looking forward to our 25th reunion. Len is married and he and his wife Annette with their two children live in Malden, Mass. . . . Received a card from **Joe Smedile** who is a Colonel in the U. S. Army, with the U. S. Army Engineer District, Chicago, Ill. . . . **Louis La Forge, Jr.**, has been appointed by the Director of the National Bureau of Standards to the Advisory Committee on Calibration and Measurement Service, whose purpose is to facilitate liaison between the Bureau and industry. Louie is a staff specialist, Components and Reliability with the Sylvania Electronics Systems of Waltham, Mass.

**Norm Birch** recently delivered a paper at the New England Regional Foundrymen's Meeting in Boston. Norm has been with the American Brake Shoe Co. since graduating and last summer moved with his Division Headquarters from St. Louis to Meadville, Pa. In January he joined the Albion Malleable Iron Co., Albion, Michigan as their Technical Director. Norm and his wife Elvie have two sons. Eric is a sophomore at Harvard and Alan is in High School. . . . **Sid Levine** writes that "after many years in the Manhattan-New Jersey area, I moved to Cleveland this July. I was appointed to the editorial staff of Ceramic Publications, Inc., which has its main office here. I am editor of a new magazine, 'Nonmetallic Minerals Processing,' which made its appearance in October. I am also technical editor of 'Ceramic Age,' and have been a contributing editor to C.A. for the past year. I joined the M.I.T. Alumni Association of Cleveland, but haven't had a chance to attend any meetings as yet. Hope to do so before long. As for personal data, I am still a bachelor." Good to hear from you, Sid, and I hope others will take note and drop a line. It is only as you send in the news that this column can be full and interesting.

Just received the sad news of the death of **Charles B. Holland** of Youngstown, N.Y., in an automobile accident on December 24. Charles was the only American to win three times the Cresta Run single bobsled championship in St. Moritz, Switzerland. We offer our sympathy to his wife, Jacqueline and his two sons, Charles and Michael.—**Robert H. Thorson**, Secretary, 506 Riverside Avenue, Medford, Mass.; **Prof. Curtis Powell**, Assistant Secretary, Room 5-323

'38

Through a news bulletin telling of an address given by **Andy Stergion** before the Western Massachusetts Section of the American Society for Quality Control, I find that he is manager of quality control for the Corning Glass Works. . . . We have announcements of two promotions: **Bob Campbell**, who is with the Burroughs Corporation has been made staff technical director in the office of the vice president-research. As director of research for the corporation he is responsible for the management of research, development, and systems of the Burroughs Laboratories. . . . Dr. **Charles Harrington** has been appointed assistant general manager of the Elastomer Chemicals Department by the DuPont Company. . . . Your secretary and his wife were cordially welcomed to California recently by **Doc** and **Jonsie Wochos**. We enjoyed dinner and a pleasant evening at their home in Northridge.—**David E. Acker**, Secretary, Arthur D. Little, Inc., 1424 Fourth St., Santa Monica, Calif.

'39

**George Jules Laurent**, VI-A, has been named executive vice president of General Atomics Corp., Bala Cynwyd, Pa. George was one of the founders of the firm, and has served as vice president and secretary-treasurer. . . . In Springfield, Vt., the Bryant Chucking Grinder Company, a subsidiary of the Ex-Cell-O Corporation of Detroit, has named **John Whittemore Lovely** as service manager. John, a graduate of Dartmouth before coming to Tech for graduate work in Course XV, has been with Bryant since July, 1939. The Lovely family lives on Orchard Street, Springfield. . . . **Robert Bruce Gordon**, Grad., XIX, wrote that he has been recently appointed to the new position of manager, Technical Operations of Atomics International, a division of North American Aviation, Inc., Canoga Park, Calif. Dr. Gordon lives at 19322 Superior Street, Northridge, Calif. . . . **Francis Stuart Chapin, Jr.**, Grad., IV-C, is Professor of City Planning at the University of North Carolina. Stu is also director of the Urban Studies Program; of the Institute for Research in Social Sciences, a five-year program substantially financed at U.N.C. by the Ford Foundation. Stu took his undergraduate work at Minnesota, before coming east to Cambridge. Stu and Mildred have three youngsters: Stuart, 3rd (Terry), 15, a student at Deerfield Academy; Alison, 13, an eighth-grader in Chapel Hill, and Stephen, 10, a fifth-grader. The Chapins live in a striking modern home on Burlage Drive, Chapel Hill, where I had the pleasure of being a dinner guest during a business trip to North Carolina in November.

From the information bulletin of the Sperry Gyroscope Company came the note that **Frederick Quincy Gemmill**, Grad., VI, is manager of Standards and Service Laboratories. Fred can be reached at company headquarters, Great Neck, Long Island, N.Y. . . . This isn't precisely "late" news, but last summer **Ernest Kaswell's** Fabric Research Laboratory broke into the news twice. The first time was a Wall Street Journal article of July 5, 1960, entitled "Scientists Push Hunt for Wash-and-Wear, Wrinkle-Free Wool." Later, in the Christian Science Monitor, there appeared an article: "Textile Cannon Aimed at Space." This story told about the modification of a 75-mm cannon to conduct high-speed impact tests on fabrics, such as would be encountered by space-age vehicles. Ernie (our Class Treasurer, incidentally) and Yolande live at 58 Larchmont Avenue, Waban 68, Mass. They have three children: Jeanne, Gordon, and Stuart.

A fine letter and Christmas card from Yokosuka, Japan, brought news from **Fred Cooke**. Biggest news was a new son for Christmas; nearly so, at any rate. After four daughters, Freddy, Jr., arrived on November 4. Fred and Eugenia can be reached as follows: c/o Officer in Charge of Construction, Bur. of Docks Contracts, Far East, Navy 3923, Box 61, FPO, San Francisco, Calif. Fred wrote that he is involved with the Navy's construction and facilities program for Japan and Okinawa as well as way stations between. And he sent a special message to all thirty-niners: "Kurisumasu to shinnen omedeto gozai-masu!" (I'm not up on my Japanese, but I presume that Fred is telling us to hurry up and contribute to the Alumni Fund, thereby raising our reputation as an up-and-coming class even more.) . . . Another Christmas card, from **Maynard** and **Kitty Drury**, tells us that they have moved to a 160-acre farm in Phelps, N. Y., near Manchester, where Doyal Die Casting Corporation is opening up shop. The card didn't indicate Maynard's position with Doyal, but did give some news about the children: Walter is in Montana; Mary is a senior at Dobbs, and plans for college out West next year; Esther, Jack and Carol are in the Phelps school and are learning skiing on the family farm. . . . More news via other welcome cards next month. In the meantime, write!—**Oswald Stewart**, Secretary, 31 Birch Road, Darien, Conn.

'40

We missed **Ray Keyes'** usual cheery Christmas newsletter and hope that all is well with the Keyes family. As a substitute this year, **Gary** and **Marion Wright** presented the following: "Our yearly greetings and love come your way once again along with a brief chronicle of another full, busy, wonderful year. The new business is now a year older and our hopes are high that another year will put us really on our feet. Garrett loves every minute, so that is good. Marion's term as P.T.A. President is over, but there is still

YWCA board, Camp Fire Girls, Garden Club, etc. The reward for eight years in Camp Fire was a wonderful week in New York in October for the Golden Jubilee convention. Gary is a Senior in High School and a National Merit Scholarship semi-finalist. We hope that this academic honor will help win him entry into the college of his choice—but that remains to be seen. He added to his swimming honors this summer and is still putting in about six hours a week on his favorite sport. Judy is a sophomore this year. She has so many irons in the fire it is a strange weekend indeed without a meeting in our family room for Horizon Club, to plan a parade float, a skit for school, working out a water ballet, or other activity. We are happy that she still loves her piano, too. She spent a week in Alabama last spring at the National Field Trials and two weeks at camp this summer. Janet is in Junior High now. Swimming is still her first love and she is beginning her collection of medals with three so far. She has kept up her flute and Marion has inherited her Camp Fire Group. Her new activity is ballroom dancing. She made eight trips to swim meets last spring and summer. Our latest addition is Fergus McFuzzy Face, wheaton scotty. He won first place in the puppy show but he bit the judge so he and Garrett had ten weeks at obedience school. We had two wonderful weeks in the East in June for Garrett's 20th reunion. We flew in order to use every possible moment, and divided our time between New England and Virginia. Wish we could have seen you all. We did see some California kin and long-time friends at the Washington airport much to our surprise."

During the Tech Centennial Celebration, '40 will have a Class Dinner on Saturday, April 8. **Arnie Wight** is in charge of the affair and those who can make it should get in touch with him at Box 298, Amherst, N. H. The dinner will be at Hartwell Farms, and prior to the dinner there will be a meeting at **Russ Haden's** house on Weston Road in Lincoln, Mass. . . . Don't forget the goal of a minimum of \$60 a year to the Alumni Fund for every member of the class during each of the next five years so that we can have an outstanding Class Gift to present in 1965. . . . **Clinton Powell** has been named deputy chief of the National Institute of Health Division of Research Grants. This is a step upward in his career in the public health service which dates back to 1946.

Continuing with the reunion notes, **Jim** and **Jane Rumsey** are in Wilmington where Jim is now out of girdles and in a more prosaic position as Dacron Products manager. They have three children, a daughter Lee 13, and two sons, Spence 7, and Stuart 2. Among Jim's noted activities are the local Delta Upsilon Club, the American Chemical Society, a questionable golf game, and the ability to effectively resist learning how to play bridge and square dancing. . . . **John** and **Jeannette Piotti** make their home with their four daughters, Barbara 10, Kathy 7, Martha 6, and Carol 4, at 11 Osage Road, Canton, Ohio. John has his own business and accordingly, by his



own definition, his title is "Jack of all Trades." . . . **John Vanderpoel** is a Lt. Col. in the U.S. Air Force. At present John and Joan with their two youngsters, Eric, 2nd, 18, and John, Jr., 15, reside at Crescent Road, Concord, Mass. He notes that he has managed to stay in one place for five years with a chance for staying three more. This is the first real roots he has been able to put down in one place as an adult.

**Jo Jo Wylie** and **Karla** have one child, Joseph, 3rd, 14, and live on River Road, Bedminster, N. J. In keeping with his well known ability to do many things well, Jo is president of two companies, Hummel Technical Products, Inc., and Fluid Dynamics, Inc. He is a Township Committeeman, a former member of the town planning board and member of the Board of Health, and Police Commissioner. Jo is active in the M.I.T. Club of New York in a position for which all of our classmates will agree he is well qualified, chairman of the Beer Party Committee. . . . **Jim** and **Jeanette Baird** are Massachusetts residents, living at 25 Oxford Street, Winchester, along with Tom 16, Jayne 14, Stephen 12, and David 9. Jim is vice president in charge of chemical engineering for Artisan Metal Products, Inc., is active in the Boy Scouts and Little League, and is treasurer of Ichthyologists for the Boston Section of the American Chemical Institute.

**Russ** and **Connie Haden**, their youngsters, Dana, 13, Salera, 10, Russ, 9, Keller, 8, Chesley, 5 and Kinard, 3, and their menagerie, after a brief stay in Richmond, Va., have been back in Lincoln, Mass., for some time. Russ is a vice president of the Dewey & Almy Division of W. R. Grace & Co. He has had the lead in several amateur productions, notably, "Separate Tables" and the second lead in George Bernard Shaw's "Caesar and Cleopatra." . . . **Joe** and **Jana Owens** make headquarters at Brookwood Road R.D. No. 2, Cazenovia, N. Y. Their children are Jeff, 13, Cory, 12, Philip, 9, Daniel, 7 and Sarah, 2. Joe is president and treasurer of the J. F. Owens Machinery Co., and is also president of the University Club of Syracuse, as well as past president of the American Machine Tool Distributors' Association. . . .

**Dick** and **Jean Robertson** with youngsters Douglas, 18, Carolyn, 16, David, 14, Donald, 12, Anne, 10 and Richard, Jr., 5, are residents of Andover, Mass., at 10 Argyle Street. Dick is assistant to the president of the Textile Aniline and Chemical Co. and is a director of the Andover Taxpayers' Association, and a member of the International Institute Committee. . . . **Doug** and **Lois Eckhardt** live at 60 Eaton Road, Needham 92, Mass., and have youngsters David, 15, Betsy, 12 and Jane, 11. Doug is manager of Equipment Fabrication for Sylvania Electric, Electronics Systems Division. He is serving as an elected town meeting member and director of the Public School Association in Needham, and also at one time was cubmaster and on David's Boy Scout Troop Committee.—**Alvin Gutttag**, Secretary, Cushman, Darby & Cushman, American Security Bldg., Washington 5, D.C.; **Dr. Samuel A.**

**Goldblith**, Assistant Secretary Department of Food Technology, M.I.T., Cambridge, Mass.

## '41

The precision investment casting firm of Rode, Inc., is busily turning out parts for missile and electronics applications, using the lost-wax technique. **Bob Alfred**, the president, estimates a half-million dollars' worth of business this year. Employing 45 people, the firm is located in Woburn, Mass., having moved from Boston in 1950. . . . Vice-president of the newly-formed Brill Engineering Corporation, a consulting organization concentrating on materials handling, industrial automation, and instrumentation, is **Kenneth Roe**. He has been executive vice-president of Burns and Roe, Inc., now merged into the Brill company. Ken has directed the Bomarc missile ground support facilities program and the SAGE air defense system. He has also supervised design and construction of a beryl ore reduction plant for the Atomic Energy Commission, the Lewis Flight Propulsion Sciences Laboratory for the National Aeronautics and Space Administration, the Naval Aeronautical Turbine Testing Station, and a number of electric generating stations. . . . **Stanley Webber** has been named manager of engineering in General Electric's newly organized Traveling-Wave Tube Product Section at Palo Alto, Calif. With G-E since 1942, Stan holds ten patents in the microwave field, and has written a number of technical papers. In his new position, he will direct all phases of engineering of high and low power traveling-wave tubes, specialized klystrons, harmonic filters, and other microwave components.

An analysis of spectrograms of the planet Jupiter has been completed at the National Bureau of Standards. The spectrograms were obtained by **Charles Corliss** and **C. C. Kiess** at the U. S. Weather Bureau's Slope Observatory on the side of the Hawaiian volcano Mauna Loa. . . . Also in the Bureau of Standards, a Technical Advisory Committee on Calibration and Measurement Services has been formed. It will advise the bureau on current and anticipated needs of industry for measurements and calibration services and suggest how the skills and resources of the bureau may best be utilized to meet them.—**Ivor W. Collins**, Secretary, 9 Sunnyside Drive, Dalton, Mass.; **Henry Avery**, Assistant Secretary, Pittsburgh Chemical Company, Grant Building, Pittsburgh 19, Pa.

## '42

Congratulations are in order for several of our classmates. Their promotions are in recognition of outstanding work. . . . **Paul L. Hotte** has been elected president of Mallory Metallurgical Company, a division of P. R. Mallory and Company. Paul's responsibilities include

the manufacture of electrical contacts, resistance welding products and powder metal parts. Prior to joining Mallory in 1952 he had been associated with the Technological Development Corp., Engineering Associates, Dictaphone Corp., and General Electric Co. Paul, Mildred and their four boys are located in Indianapolis. . . . **Herbert H. Howell** has been elected a vice president of Arthur D. Little, Inc., of Cambridge, Mass. Herb's activities are in ADL's Engineering Division. He joined this industrial research company in 1950 after working five years with the Wright Aeronautical Corp., and two years with the Applied Physics Laboratory of Johns Hopkins University. Herb followed his degree in mechanical engineering with graduate work at the Institute and at Stevens. He is a member of the Society of Automotive Engineers and the American Management Association.

Just so we (and you) don't miss this item—Reunion plans have been started. Class President **Jerry Coe** has announced the appointment of **Alfred E. Goldis** as chairman of our 20th Reunion, the weekend of June 9, 1962. A committee is in the process of being organized to insure an even finer and gayer gathering than our 5th, 10th and 15th. High on the priority list is a call to meteorologists for long-range prediction and control of the weather. Al is executive vice-president of the Trimount Clothing Co., and a widely known expert in the clothing field for his work and writings on labor relations and also the use of data-processing machines for the business records of soft goods manufacturers.

Back to promotions: **Peter G. Volanakis**, manager of technical sales for Strathmore Paper Co., has recently been elected a director of that company. Pete joined Strathmore in 1946, after World War II service as an Army Captain, in the position of chief chemist of the Woronoco mill. He, Freda and their three children live in West Springfield, Mass. . . . The Du Pont Experimental Station has announced the promotion of **David W. Carnell** to the position of senior research chemist in the Polychemicals Department. He joined Du Pont in 1942. After Navy service as a Lieutenant in the Pacific he rejoined the company and worked as supervisor of process development of nylon intermediates and later polyvinyl butyral, the resin used for "Butacite" sheeting (the interlayer in safety glass). In 1956 he assumed responsibility for product development activities for "Zytel" nylon resin. David took his M.S. in chemical engineering with us. He is a member of A.I.Ch.E. and is president of his local Parent-Teachers Association in Wilmington, Del.

An Infrared Guidance Sensor to control final orientation of American space probes during their flights to Venus and Mars is now being developed by the Barnes Engineering Co. of Stamford, Conn., under the direction of **Eric Wormser**, vice-president and technical director. According to present planning, combined radio and inertial guidance will place the probes within 100,000 miles of these planets; the infrared terminal guidance

system will then take over control to assure that the measuring instruments on the vehicle will be pointed at the planet.

**Lloyd E. St. Jean**, chief engineer of the Equipment Design Department of Saunders Associates, Inc., of Nashua, N.H., has been appointed general manager of their new plant in Plainview, Long Island, N.Y. Saunders designs and manufactures equipment for space communications, space navigation, anti-ICBM systems, and anti-submarine systems. . . . For the record we are clarifying the sign-off: **Ed Edmunds** is still in Albuquerque; **Jack Quinn** is still in Hawthorne, Calif. (when not air testing jets); and **Bob Keating** is still in East Alton, Ill. Only your occasionally lazy secretary is at Tech/ops.—**Lou Rosenblum**, Secretary, Tech/ops, Burlington, Mass.

## '43

It's always a pleasure to bring you news of classmates who are attaining new heights in industry. **Jim Spitz** has been appointed president of the Newport Industries Division of Heyden Newport Chemical Corporation in Pensacola, Fla. Jim has been executive vice president since early 1960. He has been with Newport Industries, a leading producer of wood naval stores, tall oil products and their derivatives, since 1946, when he joined in an engineering capacity. Early in 1959 he was appointed a vice president of the division. He is a member of the American Chemical Society, the American Institute of Chemical Engineers, and the Chemist's Club of New York. Active in Pensacola, Fla., community activities, he is a director of the Pensacola Chamber of Commerce, the Pensacola United Fund, and the Associated Industries of Florida, and president of the Pensacola Art Center. . . . **Charlie Hathaway** was appointed as vice-president of the Torrington Manufacturing Company, Torrington, Conn. He will have over-all responsibility for the Connecticut and Indiana Air Moving Divisions of this company. Charlie has been with the company since 1950 in various engineering capacities and was in charge of all air impeller engineering from 1953 to 1959. He has served as assistant general manager of the Connecticut Division since January, 1960. Under his direction, expansion of research and development, application and design engineering have produced a wide variety of new products. Following his release from the Navy in 1946 as a Lieutenant, he was with the Perflex Corporation in Milwaukee and then in the Research Laboratories of the Sharples Corporation in Philadelphia. Charlie and Peggy live in the beautiful town of Litchfield, Conn., in an old Connecticut homestead with plenty of room for their three children to romp. He is a registered professional engineer in Connecticut and a member of A.M.S.E., A.S.H.R.A.E. and the Acoustical Society of America.

**Sam Scharff** was married to Audrey Lorraine Weissman of New York City on December 18, 1960. Audrey is a book

designer with John Wiley & Sons, New York, and Sam is in the practice of consulting engineering in the fields of electronic automatic controls and computer application at 250 East 43rd Street in New York. Sam wrote recently extolling the virtues of the independent practice of engineering. He has been engaged in data processing and control systems projects for the Air Force and for some industrial-commercial organizations, including Capehart, Dennison Manufacturing, and General Electric. He has also worked on some original equipment design and prototype projects in the fields of data-processing and medical-psychological research.—**Richard M. Feingold**, Secretary, 10 North Main St., West Hartford 7, Conn.; Assistant Secretaries: **Christian J. Matthew**, Arthur D. Little, Inc., 314 Battery St., San Francisco, Calif.; **John W. McDonough, Jr.**, 413 North Miami St., Wabash, Ind.

## 2-'44

About the time that you will be reading these notes, the worst of the winter will just about be over. I'll put my plea for more material at the beginning of the notes this month to see if I get better response.

**Larry Biedenbarn** took one of my recent pleas seriously, and dropped me a nice note advising that he had just accepted a professorship at Duke University which means a move from Houston, Texas. Larry reports that apparently moving is the family hobby, since he has just gotten settled in Texas after a year in Europe (England, Denmark) as a Senior Fulbright and Guggenheim Fellow. He adds that daughter Sally was born last summer giving Johnnie a sister.

I am very sorry to have to report that **Garry C. Myers, Jr.**, and his wife were killed in an airline accident in New York City on December 16. He was a Course XVI graduate, and was residing in Columbus where he was president of Highlights for Children, Inc., which published a monthly children's magazine. . . . The other evening, I had a chance to talk to **Ed Jefferson** who is living in Darien, Conn. He is working in New York with U. S. Rubber as staff consultant fire protection engineer. He is responsible for seeing that all new construction is made fire resistant. As a result of activities with his two boys aged six and nine, he is a cubmaster. To occupy his spare time, he is also a representative to the Town Meeting for the city of Darien, which is an elective office. . . . Had a nice chat with **Carl Lindemann** who is program vice president and director of California National Productions, a subsidiary of Columbia Broadcasting System. He and his wife Cissie are still living in Old Greenwich with their four daughters. He also reports that they are expecting an addition to the family in April. Do any of you fellows care to comment on the odds of boy vs. girl?

A glance thru the 1960 Annual Report for Technical Operations, Inc., Burlington, Mass., brings the news that Dr. **Eric T.**

**Clarke** is chairman of the Board for the company. The company has been working on advances in the development of a nongelatin film and print paper for photography, microfilm, and photo-finishing applications. I didn't get a chance to talk to Eric, so can't bring you up to date on the family, but shall try to do so in the next month or so. . . . Your secretary has just started a new job with Reflectone Electronics, Inc., of Stamford, Conn., and will be moving the family down from Needham, Mass., as soon as I can sell my house. I will be commercial products sales manager responsible for the sale of non-military products. As a result, I will be travelling a bit more, and look forward to calling up a few of you non-correspondents and letting the rest of the class in on some of your interesting activities. Until I locate a house here, my address will be as below. If anyone is looking for a house in the western Boston area, Needham in particular, don't hesitate to give me a call. See you next month.—**Paul M. Heilman**, Secretary, Reflectone Electronics, Inc., West Main Street, Stamford, Conn.

## '46

**Harry McClure Johnson**, formerly Assistant Professor of Meteorology at Cornell University, is now associate (research) meteorologist and oceanographer at the Hawaii Institute of Geophysics, Meteorology Division, University of Hawaii, Honolulu. He is involved in analysis of "Tiros I" weather satellite photos, and has also set up a research program in oceanography and is teaching a new Physical Oceanography course this year. Harry reports that the exotic foods, the wonderful weather which permits mountain climbing, surfing and swimming, the fine people, the tidal-wave watching, all combine to make Hawaii a fine place to live and conduct his research. Mac hopes to attend the reunion this spring and if he does I think we can guarantee him the roller skate prize for the greatest distance travelled. . . . **R. J. O'Donnell** is a petroleum refining engineer with the California Research Corporation in Richmond, Calif. He is married, has three children and lives at 2190 Danberry Lane, San Rafael, Calif. . . . **Walter D. Nolte** studied Naval Architecture in school, but has worked in the mechanical engineering field, research and plant operation, and is now manager of an electronics concern. He was with the Gorham Manufacturing Company until 1958 when he resigned to become vice president of the Hammarlund Manufacturing Company, Mars Hill, N.C. He has five children, lives at 31 Woodcrest Road, Asheville, N. C., is Area Commissioner for the Society of Advanced Management, and is active in Boy Scout work.

**Lewis T. Mann, Jr.**, is a research associate in Biochemistry in the Department of Pathology, Harvard Medical School. Lew is married, has one son, and lives at 161 Clark Road, Brookline 46, Mass. . . . **Roy L. Klein** is Vice President and Treasurer of Tears Engineers, Incorporated, of Dallas, Texas. He lives



at 820 Westwood, Richardson, Texas.

... **Robert W. Gardner** is a mechanical engineer in the Applied Science Department of the U. S. Naval Underwater Ordnance Station, Newport, R. I. ...

**Gene Parish** has recently changed jobs and is now project engineer with the High Voltage Engineering Corporation, Burlington, Mass. He has three children and still lives at 34 Valley Road, Concord, Mass. ...

**Shepard M. Arkin**, formerly Navy Programs Manager is now marketing manager for the Missile Systems Division of the Raytheon Corporation. The Arkins have two children and live at 25 Whipple Road, Lexington 73, Mass. ...

**Peter V. Struby** is manager of the Product Development Division of Cerro Corporation, involved in exploration and development of new fields of endeavor in non-ferrous metals. He makes his home at 401 East 57 Street, New York 22, N.Y. ...

**Paul R. Wilbur** is head of Vocational Agriculture at New Salem Academy, New Salem, Mass. He is married, has two children, and his home address is RFD #1, Orange, Mass. ...

**Seymour Collins** is chief engineer of the Buffalo-Springfield Company, a Division of Koehring Company. He lives at 2732 South D Street, Richmond, Ind.

**Roger P. Sonnabend**, who lives at 46 Melia Terrace, Chestnut Hill, Mass., was general chairman of the 33rd anniversary banquet of the National Conference of Christians and Jews, northeastern region, held at the Somerset Hotel, Boston, last month. Roger is regional co-chairman of the National Conference of Christians and Jews, a member of the Board of Governors of the Boston University Human Relations Center, a member of the Board of Trustees of the American Hotel Institute, a member of the Corporation of the Peter Bent Brigham Hospital, president of the Massachusetts Squash Racquets Association, vice chairman of the National Jewish Hospital at Denver, a director of the Newton Taxpayers Association, national vice-president of the Young Presidents' Organization, and is a member of the Advisory Committee of the Harvard-Radcliffe Program in Business Administration. Occasionally he finds an hour or so to spend on his main job as president of the Hotel Division of the Hotel Corporation of America. ...

**Richard J. Steele** is assistant director, Western Division, George Fry and Associates, directly supervising a large part of their management consulting work in the area of Denver and west. Dick is acting assistant professor of Production Management at UCLA, teaching grad students in the evening. He authored an article which appeared in Western Industrial Empire last fall on mechanizing office operations, and co-authored an article which appeared in the December issue of Go magazine (trucking industry) about management development. Dick has six children and lives in La Mirada.

**Henry E. Viola** is technical director, Vulcan Plant, Reeves Brothers, Buena Vista, Virginia, involved in the manufacture of rubber-coated fabrics. ... **Robert S. Loomis** is a partner in Loomis and Loomis, Consulting Professional Engi-

neers, Windsor, Conn. He is secretary of the Board of Directors of the Windsor Federal Savings and Loan Association; director, Farmington Valley Watershed Association; chairman, East Granby Industrial Development Commission, and active in the local Republican Town Committee. He has two children and lives on Mountain Road, East Granby, Conn. ...

**Clifford H. Black** is Associate Professor of Engineering and Architecture at Del Mar College, Corpus Christi, Texas. He lives at 3141 Austin Street, Corpus Christi. ...

**C. B. Saran** is managing director of Ex-Cell-O India Private, Ltd., in Bombay. He is married, has two children and makes his home at 43 Warden Road, Bombay 26, India. Prior to 1958 he was in charge of establishing the manufacture of Willys Jeeps in India by Mahindra and Mahindra, Ltd. In 1958 he formed his own company and soon entered into an agreement with Ex-Cell-O and changed the name of his company. He now has two plants in India and is engaged in the manufacture of machine tools and precision parts. ...

**Burhaneddin C. Marti** is director of the Industrial Assistance Commission of Turkey and chief of the Industry Division, Union of Chambers of Commerce and Industry of Turkey. He has one child and lives on Ataturk Blvd., 257, Yenisehir, Ankara, Turkey.

The January issue of this rag informed you that the first mailing for the reunion was out and advised anyone who had not received it to write me immediately. In the few days since the issue arrived I have heard from a number of irate citizens charging disenfranchisement and so I hasten to explain. The committee's intentions as of the date I submitted the article were high and honorable, but, as is often the case, the time schedule slipped a notch and the mailing didn't get out on time. In fact we had a meeting last night, January 12, in which we firmed up the copy of the mailing and now **Don Hurter** is working 18 hours a day to get it into your hands. We can chalk up a small plus for this lack of synchronization, however, because we feel highly encouraged about the turnout for the reunion on the basis of the mail response. Our mailing lists those who expect to be with us, as of the first of January. Our mailing goes out to 504 classmates who actually graduated with us. We do not have addresses of those who were with us part or most of the way but changed class affiliation before graduation. If anyone in this vast reading public knows of such individuals, we ask you to contact them yourselves, inform them of the reunion details, and ask them to forward their registration check for \$20 to **Jim Craig**, 464 Commonwealth Avenue, Boston 15, Mass. Until tax time I remain—**John A. Maynard**, Secretary, 15 Cabot Street, Winchester, Mass.

'47

**Laurence Ford**, of Redding Center, Conn., has been appointed a member of the teaching staff at Henry Abbott Tech-

nical School in Danbury, Conn. In addition to this position, he is also fire marshal in the town of Redding, a fire commissioner, and a member of the Redding Zoning Commission. ... **Hector Acebes** presented a color film, "Africa Astir," to a capacity audience at Malden High School. Hector is an internationally known photographer and is currently making his home in Bogota, Colombia. The movie was a documentary on the primitive peoples of Africa. It covered the area from Dakar around to the countries bordering on the Indian Ocean, including views of Timbuktu and Djenné, snake charmers in Morocco, and other interesting scenes of this continent.

**Jack Lehmann** has joined the marketing division of Precision Circuits, Inc., of New Rochelle, N. Y. This company is a designer and manufacturer of military and commercial printed wiring boards and assemblies. In his new post, Jack will be responsible for directing the company's sales engineering groups, both to industry and to the military. Your correspondent has also learned that Jack has just been recently married, and extends congratulations for both himself and the rest of the class. ... Late in the year, our classmate **Arnold Judson** was cited in an article in the Lowell, Mass., Sunday Sun. Arnold is director of individual training and development at the Polaroid Corporation in Waltham, Mass., and is a real booster for Middlesex County, where he lives. In this article, he cited all the particular advantages of living in the Boston area, and having the suburban advantages which Middlesex county offers. It was a most interesting article, and is indicative of the esteem with which certain members of the class are held in their communities. ... **Bob Phipps**, technical supervisor at the Acton plant of Dewey and Almy, in Acton, Mass., spoke at the Maynard, Mass., High School, on "Employment Opportunities in the Science Field." In addition to this talk, Bob arranged for the students who were interested to visit the Dewey and Almy plant for a tour, in order to give them first-hand knowledge of chemical processes which this company uses. ... **Dr. Harl Aldrich**, who is a partner in the soils engineering firm of Haley and Aldrich in Cambridge, gave an illustrated lecture on "Soil Mechanics in Action" at the annual meeting of the Vermont Section, American Society of Civil Engineers, which was held in November at the University of Vermont in Burlington. Harl received both his bachelor's and doctor's degree at Tech, and was on the faculty at the Institute before going into the partnership with Mr. Haley.

As far as the graduate members of the class are concerned, we have notification that Major **Walter E. Ditmars** of Arlington, Vt., was a Memorial Day speaker last year at Bellows Falls, Vermont, during that town's holiday festivities and ceremonies. After his experiences in the regular army, he graduated from Annapolis and obtained an advanced degree at M.I.T. Subsequent to these activities, he conducted a successful career as a manufacturer in Connecticut, and is now retired. **Dr. Harry Lighthall, Jr.**, who re-

ceived an M.S. in chemistry and mathematics from the Institute in 1947, has been awarded a nine-month Fulbright lectureship at the University of Rangoon in Rangoon, Burma. This lectureship took effect as of last September, and Dr. Lighthall is slated to return to the faculty of the University of Vermont in September, 1961. . . . **Tom Warner, Jr.**, Chief Development Engineer of MB Electronics, New Haven, Conn., will be one of the instructors at a Complex Vibration Seminar for Engineers to be held at the offices of the company at New Haven. These seminars are specifically for scientists who supervise vibration test laboratories, and will concern solution of problems in this field. . . . Army Lt. Col. **Edward Bennett**, is presently attending the Army War College at Carlisle Barracks, Pa. This school prepares selected officers for future assignments to top staff and command positions in the armed forces for the United States, and other government positions. . . . The Franklin Institute in Philadelphia has awarded **Ezra S. Krendel** of Swarthmore, Pa., the Louis E. Levy Medal. This award was given to Mr. Krendel for his work in the use of quantitative engineering to describe human behavior. At present Ezra is head of the Engineering Psychology Branch of the Franklin Institute Laboratories in Philadelphia. The field in which this research was done is of specific interest in the improvement of design of high-performance piloted aircraft by matching the pilot's control requirements to the aircraft's responses. The methods used also have been applicable in other fields such as the study of human brain waves, and eventually may be used to design prosthetic devices for human beings.—**Arthur Schwartz**, Secretary, 8355 Blackburn Ave., Los Angeles 48, Calif.

# '48

Everybody loves a party and you're invited to one on April 8. Mark your calendar now so you won't forget that our Class Dinner will be held in Boston that evening, and we hope to have a good attendance. . . . Dr. **Francis Scheid** has been awarded an educational exchange grant from the United States State Department. He will lecture in mathematics at the University of Rangoon in Burma during this current academic year. . . . Prof. **James P. Hartnett** of St. Paul, Minnesota, has been awarded two grants for study in the Near and Far East. He will work with the Japanese on problems of heat and mass transfer and will then go to the University of Alexandria in Egypt where he will serve as lecturer in mechanical engineering. In the fall, Dr. Hartnett will assume new duties as chairman of the Department of Mechanical Engineering at the University of Delaware. . . . Word has been received that **Richard H. Smith, Jr.**, has been made a professor at California State Polytechnic College. . . . **Ansel J. Gere** was recently appointed antenna engineer for Antenna Systems, Inc., of Hingham. . . . **W. D. Kingery** recently collaborated on a paper

entitled "Radiation Energy Transfer and Thermal Conductivity of Ceramic Oxides" for The Journal of The American Ceramic Society.

Of social interest was the November wedding of Miss Elizabeth Lazarus to **Jay Lloyd Block**. Mr. Block is a vice president of Rosenthal-Block China Corporation, china importers in New York. . . . A Boston firm headed by **Bernard M. Gordon** is responsible for the development of an electronic "nurse" which can be employed on patients suffering from major surgery to minor afflictions. EPSCO, Inc., has devised an electronic monitoring machine which can continuously read the temperature, pulse rate, respiration rate, electrocardiograph data and electroencephalograph data of several patients at once. The up-to-the minute health spectrum of each patient is thus always available to a single nurse manning a large central electronic board.—**Richard H. Harris**, Secretary, 26 South Street, Grafton, Mass.

# '49

**Jan Hoegfeldt** very kindly sent me a copy of "The Midcentury MITATO," a newsletter based on an annual questionnaire sent to alumni of the Alpha Tau Omega Fraternity and M.I.T. from classes around 1950. Jan reports that he is still trying to become a citizen, but has been unsuccessful so far. He has been traveling quite a bit, while developing new products, but has not seen any ATO's. He is currently serving as Secretary-Treasurer of the Purdue Chapter of the American Society for Metals. Dr. R. Schuhmann, '38, formerly of M.I.T., is the President and also head of the Metallurgy Department at Purdue. Hoegy is also on the executive committee of the Indianapolis Chapter of the Society for Non-Destructive Testing.

**William W. Smith** (S.B., Course VI) has been named manager-marketing at General Electric Co. in Plainville, Conn., with responsibility for marketing circuit protective devices manufactured there. He has been with G.E. since 1951, and he moved to Plainville as a product planning specialist in 1955. . . . **Robert O. Bigelow** (Course VI-A) has been appointed engineer of studies for New England Electric System, in Boston. He has been with them since 1950. Last June he was cited by the Massachusetts Society of Professional Engineers as the "Young Engineer of the Year" from Massachusetts. . . . **William G. Atkinson** has written a book, "An Introduction to Atomic Energy," published by John Rider and Co. He is the chief hull designer for the Groton Submarine Shipyard of Electric Boat (General Dynamics Corp.), responsible for hull structure in submarines. He has been active giving speeches last year, including one at Cape Canaveral and another on December 14 in Springfield, Mass., to the Twin States Chapter, American Society of Tool and Manufacturing Engineers. From MITATO, we learn that he is a member of the Ledyard, Conn., Board of Education, has two children, and a new

dog, Gretchen. . . . **Wesley Carlton Gustafson** (S.B. Course II) was married to Sheila Mildred Williams on November 20, at the Park Street Church in Boston. The bride is a graduate of North Quincy High School and Pierce Secretarial School. After a wedding trip to Washington, D.C., they will live at 66 Oak Hill Rd., Weymouth.

A Christmas letter from **John and Geri Kunstadter** has a return address of 35 Malvern Court, Onslow Square, London S.W. 7, England. They report "we're enjoying our stay in England. Love London. We expect to be here for a year or so." When I last heard, John was in charge of foreign operations for Formfit, and was travelling overseas a good deal. . . . Another Christmas note from **Dean E. Humphrey** (S.B. Course XB) reports that he has been with Cabot Corp. (formerly Godfrey L.) since 1957, "mostly pilot planting. Having lived in suburbia for 10 years, plan now to go farther out, to Westford, Mass., when and if building plans come to fruition." . . . **Ingram (Ike) Lee, 2nd**, (S.B. Course VI) provides a very helpful assist to your Secretary with the following letter, recently arrived: "Just a brief note to bring you up to date on the whereabouts and activities of another member of the Class of '49. I enjoy reading your class report in The Technology Review and look forward to it each month. I don't believe that I have ever submitted anything for the class notes, so this will cover the period from graduation. Am married and the father of a son aged four and a daughter aged two. I have been employed by the same company since graduation although it has changed its name from Geophysical Service Incorporated to Texas Instruments, located in Dallas, Texas. My first two years out of school were spent with GSI doing field work as a driller and in other capacities on seismograph crews, with various assignments, domestic and foreign. For the past nine years I have been in the manufacturing portion of our company's operations and am currently general manufacturing superintendent of the Apparatus Division, a position which I have held for the past two years. Prior to this I was production manager of the same division for some three years."

From **Jan Hoegfeldt** and the MITATO, the following brief notes: **Fred Adams** is the current president of the New York City ATO Alumni Assn. . . . **Carl Clark's** whereabouts are unknown since a move from Florida. Does anyone know his current address? . . . **Randy Cleworth** reports a new son, James Eric, born October 4, 1960, and says he now covers a slightly different sales territory for the Link Belt Co.: Akron and downtown and West Cleveland. . . . **Bill Estes** is now president of two enterprises, both in Wichita: Manpower, Inc., and Midwest Grain Co. . . . **Bob Griggs** is still working in Puerto Rico and reports the arrival of a son, Charles, November 12, 1959. . . . **Ed Kerwin** made a lot of mileage out of a paper on vibration damping, presenting it in Providence, Maryland, and San Francisco, in May, April and October respectively. He also reports a new son, John Andrew, November 30, 1959. . . . **John**



**Knowlton** is now supply and distribution coordinator for Aviation Fuels for Esso (Humble?) in New York City. . . . **Bill Wilson** left Curtiss Wright in July and now works for the Missile and Space Vehicle Division of G.E. which will be located in Valley Forge, Pa. . . . My thanks to this month's correspondents. How about some letters, notes, phone calls or smoke signals from the rest of you?—**Frank T. Hulswit**, Secretary, 14 Nadine Road, Saxonville, Mass.

## '50

Things are moving too fast! Here it is March already and I am not organized yet. I thought I would be organized last week! Anyhow, here are some of the items that I think would interest you concerning our fellow '50 men. . . . **Clarence G. Alhart** was appointed executive director of the Redevelopment Authority of the City of Philadelphia. He was previously project co-ordinator for Central City Redevelopment and received his degree in City and Regional Planning. From 1951 to 1955 he was assistant director of the Montgomery County Planning Commission and in 1956 to 1957 was director of a municipal planning board in Canada. . . . **Harry E. Gravin** was appointed operations manager of Hamilton Standard Division of United Aircraft Corporation of Connecticut. He will be concerned with the management of business operations and will co-ordinate and direct departmental efforts in production products, factory, purchasing, overhaul and repair, materials control and quality control. He has been the production manager since 1959 when he went to Hamilton Standard. He received his M.S. degree in Course XV in 1950. He previously was with Ford Motor Company and later became vice president and general manager of the Schneible Company. Later he was manager of Manufacturing Services, Parts and Equipment Division of Chrysler.

**Dr. Ronald E. Scott**, Professor at Northeastern University, has just published a basic electrical engineering textbook and is working on a second book to be published shortly. The book is entitled "Linear Circuits—Time Domain Analysis." The second book is "Linear Circuits—Frequency Domain Analysis." Ron's books represent a departure from the traditional approach to teaching the principles of electrical engineering. He has placed stress on covering general theories rather than basing the approach on the study of specific equipment which often becomes outmoded by new developments and findings. He is currently engaged in research on terminal diodes and has been teaching at Northeastern since 1955. He received his doctorate from Tech and was a former instructor in Applied Physics at the University of Toronto and assistant professor of Electrical Engineering at Tech. He is also active in the Institute of Radio Engineers, the American Institute of Electrical Engineers and the American Society for Engineering Education.

The following is a listing of '50 graduates who have recently moved. I am listing their new addresses so that some of you will contact your old friends. I know it is a pleasure to me to find out where some of my long lost friends are now living and settled. **Robert E. Magill**, Course X, Star Manufacturing Company, 701 South Logan Street, Denver 9, Colo.; **Joseph T. Benedict**, Course V, 30 Rue du Rhone, Geneva, Switzerland, **Eric E. Anschuetz**, Course XV, 37 East Cooper Avenue, Moorestown, N. J.; **Dr. John M. Barney**, Course VI, 1831 Via Genoa, Winter Park, Fla.; Reverend **Richard N. Bolles**, Course X, 188 Lafayette Avenue, Passaic, N. J.; Commander **Raymond Wiggins**, Course XVI, 242 East J Street, Chala Vista, Calif.; **Lloyd K. Dexter**, Course II, 10 Jansen Lane, North Haven, Conn.—**Gabriel N. Stillian**, Secretary, American Management Association, 1515 Broadway, New York 36, N. Y.

## '51



When this issue goes to press, it will be high time for all good men to make up their minds about the class reunion. If you have not made your reservations and contacted your friends, by all means start now. We hope to see you in June.

**Ed Lays** is working as a design specialist with the astronautics division of the Martin Company, in Denver. He and Lynn have two children. . . . **Ed Martin** is with the Midwest Research Institute, in Kansas City. After Ed left Tech, he got his M.S. from Kansas University in 1956, and his wife, Ruth, received her B.S. in economics from Kansas City University. They have two daughters, Edeen Joyce, 14, and Abigail Susan, 1. . . . **Jim Michelman** is a director of Mainzer Minton Company, Inc., New York Textile Convertors. Jim and Enid, and their children, Lise and Doug, live in Hartsdale, N.Y. . . . **Roger Milkman** obtained his Ph.D. in biology from Harvard in 1956. After a year of research in Paris and three years on the staff at the University of Michigan, he became an Associate Professor of zoology at Syracuse University last fall. Roger and Marianne have one daughter, Ruth Margaret. . . . The Walworth Company has promoted **Forest Monkman** to vice president of Engineering and Research. Forest joined Walworth in 1955 as research director. . . . **John Morgenthaler** is with the Atlantic Research Corporation, where he has been working in solid propellant research since 1958. . . . **Dick Moroney** is working on his Ph.D. in mathematics at the Institute, teaching M351 and M352. He is married to Liz Clark, '54. . . . **Merton Morse** is project engineer with Avco Research and Advanced Development Division, Wilmington, Mass. He and Bernice have two children, Diane and James, and live in Marblehead. . . . **Stan Moulton** is presently with the Hitchiner Manufacturing Company, of Milford, N.H. Earlier, he was with the Midwest Precision Castings Company of Cleveland, Ohio. Stan and Mimi have two sons, Stanley, 3rd, and Robert.—**Richard W. Willard**, Secretary,

Box 105, Littleton, Mass.; **Robert S. Gooch**, Assistant Secretary, 407 Danciger Building, Fort Worth 2, Texas.

## '52

We hope to see a goodly turnout of '52 at the Centennial Celebration next month. Will you be there?

From the mailbag a very interesting letter from **Philip Thiel** in Kamakura, Japan, where he is doing research on Architectural and Urban Space Sequences, and, from the letter, becoming very much interested in and informed on the Japanese. . . . **Brenton R. Groves** has joined Goodyear Aircraft's Engineering Organization in the Training and Test Equipment Engineering Department. . . . **Tom Stern** is an assistant professor of Electrical Engineering at Columbia University, and has been the author of several papers in the IRE Publications. . . . **Harris D. Lang** is with Booz, Allen & Hamilton, in Cleveland, doing management consulting, and announces a daughter, Trisa, born August, 1959. . . . **Frank Staples, Jr.**, is now a sales engineer for National Research Corporation in the Metals Division, producing high performance materials for specialized use. . . . **Dr. Joseph H. Holloway** has been named manager, Resonance Physics Research at Bomac Laboratories, Inc., in Beverly, Mass. . . . **Gerhard Hover** is in Singapore, Malaya, working for the Lummus Company, Ltd., as chief engineer of refinery construction on a small island, Pulau Bukom, just 77 miles north of the Equator. He mentions his personnel include four American and four Dutch engineers, several Chinese engineers, and a construction force of 500-600 Chinese, Malay, and Indian workers.

**Robert G. Hunt** is with the Hughes Tool Co. Aircraft Division in Culver City, Calif., as a Project Engineer on various aircraft oriented projects, and mentions seeing Lloyd Licher, '50, National Secretary for the Soaring Society of America, and R. Thomas Priestley, '50, working for Convair in San Diego in aerodynamics. . . . **Dr. James D. Robertson** has been appointed assistant professor of Neuropathology at McLean Hospital, Waverley, Mass. . . . **Joe Kotrich, Jr.**, is moving to the big town, New York, N. Y., to work for Fairchild Camera and Instrument, Semiconductor Division, as a sales engineer. . . . **G. Robert Koch** is with Kaiser Engineers, International, in Oakland, Calif., as a project engineer on the Volta River Hydro-Electric Power Project for the government of Ghana, and has just returned from a field trip to Ghana. Mentions having given a discussion paper on rockfill dams for the Journal of the Power Division, ASCE.

**Clyde Baker, Jr.**, is chief engineer with Soil Testing Services, Inc., in Chicago, and is vice chairman of the Ethics and Practice Committee of the Illinois Society of Professional Engineers, Chicago Chapter. . . . **Bruce Curry** is with RCA, EDP Division in Camden, N. J., as methods and sales support manager. . . . And **Gerry** and **Anita Laufs** are in

Hamburg, West Germany, with Esso A.G. where Gerry is Deputy Head, Coordination and Petroleum Economics Department, on an 18-month loan from Standard Oil (N.J.). Gerry mentions recent business trips to Vienna and London. . . . **Michel Paris** is in Pont-a-Mousson, France, working as a Research Engineer, managing three departments for the Pont-a-Mousson Research Center in processing metallurgy and anti-corrosion, and has had several publications about corrosion and ductile iron in French and American papers. . . .

**Granger Sutton, Jr.**, is a Captain with the Army and is the preventive medicine officer and dispensary doctor at Fort Shafter, Honolulu, Hawaii. Mentions that he will be discharged in June and begin his residency in neurology.

Here is an out and out plug for the M.I.T. 128 Luncheon Club which is enjoying its organizational year on the great "out of Boston highway." Any of you '52ers in the area who might be interested in getting together with other Alumni four or five times a year for lunch and an interesting speaker and would like details, drop a line to your secretary or to Joe Vitka, '49, Compo Shoe Machinery Company, Waltham, Mass.

The '52 Tenth Reunion planning is under way!!! **Sandy Isaacs** is chairman and many others are working with him to make this a great weekend. **Jim Davidson**, publicity chairman of the reunion, would like to hear from as many of you as possible about your opinions. Specifically: Will you plan to come? Do you have any program suggestions (accent on geniality and low-pressure conviviality)? And do you have a preference for Lenox in the Berkshires, the Cape, or some other spot? Please write Jim Davidson at 111 Adams Street, Lexington, Mass. . . . And now this column is coming to a close. Keep the mailbag full, and see you at the Centennial.—**Dana M. Ferguson**, Secretary, 242 Great Rd., Acton, Mass.

## '53

Ole Faithful (that's me) again reports on any and all news I can lay my hands on. Item one: tidbits (some of which I remind you are not yet released for publication). . . . **Paul** and **Ginny Shepherd** were greeted with their fourth child about a month or so ago. . . . Five classmates joined the M.I.T. Faculty this year as assistant professors: **Ali Argon** in the Mechanical Engineering Department; **Bill Bertozzi** in Physics; **Harris Bixler** in Chemical Engineering; **Kent Hansen** in Nuclear Engineering; **Justin (Jake) Kerwin** in Naval Architecture; and **Marty Wohl** in Transportation Engineering. Also, **Nelson Lees** is assistant to the Director of Public Relations. (He is so far upstairs that he hasn't been able to drop me a note on his recent whereabouts.) . . . **Max Michel** is taking an active part in the 13th Annual M.I.T. Fiesta to be held in Mexico City from March 9 to 11 and is serving on the 12-man Fiesta Committee. . . . Saw **Marvin Turkanis** at the Highway Research Board meeting

in Washington. He is project engineer for sources with NUMEC (Nuclear Materials and Equipment Corporation) whose home office is in Apollo, Pa.

**Sid** and **Grayce Hess** sent along their Christmas letter to bring us all up to date. Their two children, **Peter** and **Debbie**, are a year-and-a-half and five years old and thus quite old enough to be interesting and make for much mischief. Was delighted to hear that **Debbie's** first word was "Dixie." (That's a wonderful way to raise a child.) **Sid**, if you remember, is working for Atlas Powder Company in Wilmington, Delaware; that is, during the day. Evenings and weekends he finds himself employed as Mr. Fixit in their new home, a task he fulfills with some expertness and with loud complaints. (It is only fair to add, in closing, that "Dixie" is also the name of their cat!) . . . Will close at this point with a strong plea. Please drop me an informal note about your life and that of your family. Old news to you is new information to us. So . . . have a ball and write me about it.—**Martin Wohl**, Secretary, Room 1-131, M.I.T., Cambridge, Mass.

## '54

From north of the border, our elder statesman, **Dean Jacoby**, has finally managed to get a message down to us. Dean writes that, as a senior consultant in marketing and organization planning for Payne-Ross, Ltd., he spends a good part of his time away from Montreal and on the road, and hence has little opportunity to establish communications with us down here in the warmer regions. However, he wanted us to know about his new position, mentioned above, and to inform us that he has discovered that **Gene Brandeis** is now working for the Ampex Corporation in California, so he set aside a few moments while on one of his trips to the hinterlands to write us a note. He managed also to include a comment that everyone should contribute to the Alumni Fund. It is his job as Class Agent to include such comments but, actually, what he says is very true. Such contributions are not only extremely helpful to Tech, but are understood to include our Alumni dues. Not many of you, I'll wager, know that the Alumni Association expects \$4.00 annual dues from each of us. But this amount represents that part of your contribution to the Alumni Fund which, among other things, guarantees your continued reception of this august magazine, including this monthly collection of class news nuggets. Those of you who have not yet contributed, do so; you still have time.

**Ray Rivero** writes from Manchester, N. H., that he has just become plant manager of the main plant, sweater and swimwear division, M. K. M. Knitting Mills, Inc. . . . Our president, **Bob Anslow**, similarly reports that he is now product planning manager for Marine Radars and Depth Sounders at Raytheon in Waltham, Mass. . . . We also have word that **Dick Jones** is representing General Electric, in an unknown capacity, at Na-

goya Air Procurement, which is officially somewhere west of the United States.

. . . And **Phil Perry**, who is a project engineer at Canel in Hartford, Conn., has taken over the job of chief of radiological defense for the Civil Defense Committee of Glastonbury, Conn.

Turning to the educational scene, we find that **Gregory Constantine** is now hard at work in the M.I.T. Graduate School. Greg has had several articles published in the IBM Journal, the latest being "New Developments in Load-Sharing Matrix Switches" in the October, 1960, issue. . . . From President Stratton's 1960 Report, we learn that **John Bleier**, **Paul Gray**, and **Marty Wohl** have all been promoted to Assistant Professor at Tech, John and Paul in electrical engineering, and Marty in civil engineering. . . . **Bob Evans** is also at Tech, and informs us via his Christmas card that his thesis was read at a labor economics conference at Princeton. Bob has also been running around the country as a representative of Tech, visiting high school students and discussing education and M.I.T. with them. And last March, his second child and first son, **Robert**, 3rd, was born. Busy man. In a final comment, Bob says that either the winters in Cambridge are getting harder or Tech is getting softer. Twice before Christmas, the Institute closed down because of storms. The good old days were never like that.—**Edwin G. Eigel, Jr.**, Secretary, 321 North Thomas Street, Arlington 3, Va.

## '55

News is a bit lean this month, but we do have a few choice items for you. The cover article in the October 31, 1960 issue of "Aviation Week" was of particular interest to 55'ers. It described work on an Oscillating-Electron Ion Engine being done at the research laboratories of the United Aircraft Corporation under the direction of Group Supervisor Dr. **Russell Meyerand, Jr.** Russ was quoted a number of times in the story with regard to statements on the engine's capabilities, and on its future potential for placing satellites into orbit. Sounds great, Russ, keep up the good work. . . . Another 55'er in print was **Samuel C. Goldman**, who presented a paper entitled "Frequency Variations in Vertical Incidence Ionospheric Reflection," at the joint meeting of the U.S. National Committee, URSI, and Institute of Radio Engineers in December at the Boulder, Colo., Laboratories of the National Bureau of Standards. The paper told of work that Sandy did while on a Fulbright at Delft in the Netherlands. He is now an instructor at Columbia University in the Department of Electrical Engineering. . . . **S. Robert Casco**, Director of Planning of the city planning board of Manchester, N.H., was a feature speaker over WENH-TV in Manchester on "Land Subdivision Control Regulations—Building Codes, Housing Codes." It is particularly gratifying to see the inroads that fellow 55'ers are making into their respective specialties. Let's hear more!



**Philip N. Eisner** was wed to Elizabeth Renwick Whittingham in Milburn, N.J., in December. The bride was graduated from the University of New Mexico and is working toward her master's degree in Spanish literature at Hunter College in New York City. Phil has done graduate work at Columbia and is now employed as a physicist by International Telephone and Telegraph Laboratories, in Nutley, N.J. . . . **Irving M. Schwarzkopf** was married to Constance A. Goldsworthy of Fitchburg, Mass. The bride graduated from Oberlin College, and studied for two years at the Universities of Freiburg and Mainz, in Germany. After a Virgin Island honeymoon, they set up house-keeping in Stow, Mass. Irv is at the Scientific Engineering Institute in Waltham. —Co-secretaries, **Mrs. J. H. Venarde**, 107 Mullin Road, Wilmington 3, Delaware; **L. Dennis Shapiro**, 15 Linnaean Street, Cambridge 38, Mass., ELiot 4-4901.

## '56

Let us begin with a review of cards and letters received recently. **Marv Bahnman** is at Convair, Ft. Worth, and is working as a senior aerophysics engineer on stability and control. Marv hopes to receive his master's in June from Southern Methodist. A daughter, Barbara Ann, has been added to the family. . . . **Tom Cleaver** reports that he wed Midori Nambu of Sapporo, Hokkaido, Japan, in July 1960. Tom hopes to enter the Harvard Graduate School of Arts and Sciences in September after he leaves the Air Force. . . . **Robert Follett** wed Rose Stauss of Brooklyn last July. Bob is working on digital computer applications for the Signal Engineering Agency. . . . **Tom Jones** reports the addition of a son, Christopher, and that **Vic Bauer**, another Ph.D. from Wisconsin, is now at the Chemistry Department of Harvard. . . . **Bob and Pat Mansperger** returned from Japan in February, 1960, to leave the Air Force and return to Warner and Swasey in Euclid, Ohio. A son, John Martin, arrived in October and Bob is now working on a master's from Case Institute in the evening. . . . **Howard Tractenberg** received his M.D. from N.Y.U. last June. Howie and Carol, with daughters, Helaine and Fay, will come to Boston in July for a residency at Massachusetts General.

Information received from the secretary of the Class of 1921 indicates that **Fred Baum** has become engaged to Helen Ewing Mitchell of Mountainside, N.J. Fred is with Leeds and Northrup and is attending Rutgers. . . . More on Sam Friedman's wedding: **Robert Gal** and **Harry Wertheimer** were among the ushers. . . . **Beldon Idelson** wed Roberta Kaufman of Cambridge in November. **Robert Ackerman** was an usher. . . . **Bob and Ellie Paschall** announce a son, Duncan Kieth, born July 31, 1960. . . . **Jim and Maryana Robertson** announce a daughter, Suzanne, born last summer.

**Warren Briggs** is working on his doctorate at the School of Industrial Management and is a resident tutor at Burton

House. . . . **Bob Meeker** is in Germany with Hobart and Martin. . . . **Jack Saloma** is back at Harvard and is a resident tutor at Winthrop House.—**Bruce B. Bredehoff**, Secretary, 1094 Center Street, Newton Center 59, Mass.; **M. Philip Bryden**, Assistant Secretary, 3512 Durocher Street, Montreal 18, P.Q., Canada.

## '57

I met **Al May** and **Jim Rowan** for dinner one evening in New York. Al had his pencil and paper ready to gather information for his and **Marty Forsberg's** monthly who is who and what is what. I volunteered to produce a column and now have the pleasure of greeting you again.

**Hod Schumacher** spent New Year's day at my house. Hod remains in the Air Force until September at which time he will be considering the possibilities of civilian work, marriage, children, and all the other domestic things that go to make up the picture of a warm hearthside. . . . I got a note from **Bill Alexander** with a Canadian return address. Bill has finished BOMOP, which other Ordnance ROTC graduates may remember, and having completed his six-month tour of duty is about to begin civilian work. Bill received his master's degree from Tech last spring. . . . I spoke to **Bob Turano** who is working at Tech to earn his keep and also to get his master's degree. Bob still plays rugby, much to the delight of the girls in Bermuda. . . . **Dick Hirschhorn** and I have been in contact with one another. Dick is working in the construction field doing hammer and chisel engineering. Since I am also in the construction field, we have a common feeling about the number of housing starts, amount of construction awards, and other statistics the Course XIV men are using to describe our activity.

**James Safirstein** and **Jules Byron** stopped in to see me with their respective wives. Both have the healthy married glow lacking in fellows like **Harry Flagg**, who is completing three years of active duty in Hawaii. **Frank Ching**, have the islands been the same since Harry's arrival? . . . **Jerry Marwell** gave a New Year's Eve party which was a rousing success as his neighbors on all sides will attest. . . . Your class officers have nominated **Ed Roberts** to another term on the Alumni Council. Ed has been doing a more than fine job. . . . Now I'll tell you who the "I" in this column has been.—**Hank Salzhauser**, President, 44 Grammercy Park, New York, N.Y.; **Alan M. May**, Secretary, 525 East 81st Street, New York 28, N.Y.; **Martin R. Forsberg**, Assistant Secretary, 11 Scottsfield Road, Allston 34, Mass.

## '58

We cordially extend the class of 1958 greetings from Boston and the hope that the class will again be taking its regular place in *The Technology Review*. I know

that you have been wondering why 1958 has been omitted with such regularity. Wonder no more. With slide rule in hand, I pledge to take up my new duties and bring you all the latest doings of our class. You can help by sending me news of yourself or of classmates.

Understand that **Dan Holland**, having spent two years with Thompson Products, is now at the Harvard Business School. . . . **Larry Boedecker**, back from a year in Germany where he had a Fulbright, is now working at M.I.T. in the Naval Supersonic Lab. . . . **Bob Baber** is still at the Institute applying his knowledge of electrical and nuclear engineering in Course XV. . . . Just read that **Jack Segall** was appointed assistant to the Director of the Jewish Memorial Hospital. Jack received his master's in Hospital Administration from Northwestern University and completed his resident work at Peter Bent Brigham Hospital. . . . **Nick Latham** is combining careers of engineering at United Shoe Machinery with farming. Nick and Marion, with the aid of young Douglas, have been having amazing results on their farm in Groveland. . . . **William Duffy** is stationed in Texas with the Army. Bill has just completed an Army course in Biology. Wonder who taught whom. . . . Also in the service is **James Taggart**. Jim went through the Coast Guard OCS and is about to be commissioned. . . . **Ken Auer**, married after graduation, went into the Army and spent six months at Fort McClellan with **David Larson**. Their biggest military achievements were avoiding troop duty, and three months in the Chemical Corps Library reading the *Wall Street Journal*. Dave went on to Wesleyan's Graduate School of Education and is now living in Westport, Conn. . . . **Glenn Strehle**, after one year peddling soap at Proctor & Gamble, went back to Course XV for his S.M. He now is at the Institute as assistant to the Director of Athletics after working in the Student Aid office last year. He is also the Class of 1958 representative on the Alumni Council.

**Helmut Weymar** was seen last at the Sloan Building in the spring of 1960 as an assistant in the Industrial Dynamics Department. He left the Harvard Business School and returned to M.I.T. in pursuit of his Ph.D. in Economics. Let's hear more from you, Helmut! . . . **Gene Depolo** has been a real nomadic playboy. He has been in Milwaukee, California, England, and back in Milwaukee, all chasing Thor missiles. . . . Yours truly, after getting an S.M. in Course XV, went with a small consulting firm in Boston and from there to Farrington Manufacturing Company. I'm still doing a bit of rowing: Henley Regatta in 1959 and the Olympic Trials in 1960. Placed second in the pair-oared race and consequently didn't get to Rome. Well, there's always Tokyo in 1964. . . . We have accumulated many engagements, marriages and children within our ranks. Since these are so numerous, by policy decision we will commence reporting on these noteworthy subjects in the next issue.—**Cornelius Peterson**, Secretary, 301 Allston Street, Brookline 46, Mass.

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